



VOL. 10

JANUARY, 1936

No. 1

# THE PSYCHIATRIC QUARTERLY

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PUBLISHED BY AUTHORITY OF THE  
NEW YORK STATE DEPARTMENT OF MENTAL HYGIENE  
DR. FREDERICK W. PARSONS, *Commissioner*

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The Psychiatric Quarterly, formerly the State Hospital Quarterly, is the official organ of the New York State Department of Mental Hygiene.

Volumes begin with the January number. Annual subscription rate, \$2.00.

Editorial communications, books for review and exchanges should be addressed to the editor, Dr. Richard H. Hutchings, Utica State Hospital, Utica, N. Y.

Business communications, remittances and subscriptions should be addressed to the State Hospitals Press, Utica, N. Y.

Entered as second-class matter April 17, 1917, at the postoffice at Utica, N. Y., under the Act of March 3, 1879.

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100

## TABLE OF CONTENTS

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	PAGE
Mental Symptoms in Brain Tumors. By Isaac N. Wolfson, M. D. ....	5
The Value and Application of Hydrotherapy in a Mental Hospital. By Neil D. Black, M. D. ....	34
Treatment of Behavior Disorders in Children. By W. H. English, M. D. ....	45
Survey of Cases of Dementia Præcox Discharged from the Psychiatric Institute and Hospital. By William A. Horwitz, M. D., and Charles Kleiman, M. D. ....	72
Psychoses Occurring in a Father and His Two Daughters. By Fred- erick Rosenheim, M. D. ....	87
The Results of Ten Years of Malarial Therapy. By Charles W. Hutch- ings, M. D. ....	99
Hereditary and Environmental Factors in the Causation of Dementia Præcox and Manic-Depressive Psychoses. By Horatio M. Pollock, Benjamin Malzberg and Raymond G. Fuller. Chapter V. ....	110
A Statistical Study of Mental Diseases Among Natives of Foreign White Parentage in New York State. By Benjamin Malzberg, Ph. D. ....	127
Psychosis Following Anesthesia. By Samuel C. Karlan, M. D. ....	143
Auditory Hallucinations in Prison Psychosis. By Rudolph Schwarz, M. D. ....	149
The Sterilization Question. Abstract ....	158
On the India Ink Reaction of Spinal Fluid. Abstract. ....	165
Graduate Instruction in Psychiatry and Neurology. Abstract. ....	167
Book Reviews ....	170
Dr. Mortimer W. Raynor ....	188
Notes ....	189



## MENTAL SYMPTOMS IN BRAIN TUMORS

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### *Review of Some of the Literature and Presentation of Two Cases*

Although the nineteenth century has been spoken of by Tilney as "the golden age of brain tumor idea," it is only in the last three or four decades that the disease has become a practical clinical entity. Dr. Cushing states that in the records of the Johns Hopkins Hospital in the decade up to January 1, 1901, a diagnosis of brain tumor was made 36 times in 36,000 patients. In the ensuing years up to 1913, only 194 examples had been verified histologically either at operation or on autopsy. In the last 30 years he alone operated on 2,000 intracranial tumors. The mortality rate from various forms of brain tumors, according to the United States Bureau of Census for the years of 1930, 1931 and 1932 was 2,840, 3,923 and 3,126, respectively.

During the last three decades the clinical and pathological investigation of brain tumors has greatly increased our knowledge of the physiology of the brain, and this in turn, through various neurological manifestations rendered the diagnosis and localization of brain tumors more accurate. The study of mental symptoms in brain tumors still appears to be in its early stage; several investigators however, from time to time, devoted their interest to this subject and thus there has accumulated considerable periodical literature.

The discussion in this paper will be limited mainly to mental symptoms of brain tumors. It is almost needless to say, however, that this is only one clinical phase of the disease, and most likely not the most important one in diagnosis and is surely the least important one in localization of the brain tumors. Nevertheless, the fact that mental symptoms may be the only or the most prominent early symptoms of brain tumors justifies this review of some of the literature on the subject.

Brain tumor is apparently a very insignificant etiological factor in true psychoses. Blackburn found 29 intracranial tumors among 1,642 autopsies of mental patients—that is 1.7 per cent. Knapp

found 101 brain tumors out of 5,069 autopsies on sane patients—1.9 per cent. For five years preceding 1930, in mental hospitals of New York State, less than 0.5 of patients were diagnosed as brain tumors. Considering various other statistical data on the frequency of brain tumors among insane, it can generally be said that the figures vary between 0.21 per cent and 1.7 per cent. In this connection, it should also be stated, that a certain percentage of these brain tumors is only a secondary incidental disease in psychotic patients, the same as any other organic disease may be. This point is brought out by F. A. Gola, who reports that out of 37 cases of brain tumors collected at Claybury Mental Hospital, 22 were not causally connected with insanity. This fact also apparently holds true in the recent review of 26 psychotic patients with brain tumors, by Jamieson and Henry. For example, Case 21 in their report was a girl with psychosis beginning at 17 years, her condition was diagnosed as dementia præcox, she died 26 years after admission to a State hospital with "general sarcomatoses," melanotic sarcoma disseminated over many areas of brain tissue; Case 26 was a woman with psychotic symptoms beginning at the age of 23, her condition was diagnosed as dementia præcox, she died 18 years later with "generalized carcinomatoses;" and there are in this group some other similar cases. The same idea is implied in J. Brander's statement: "Secondary tumors in long-standing psychoses appeared to cause no change in the character of the psychosis."

Gordon Holmes in a discussion of the mental symptoms associated with cerebral tumors makes the following introductory remark: "While it is rare for the psychiatrist to find evidence of intracranial neoplasms in patients with mental disease, the neurologist sees many with increased intracranial pressure and abnormalities of mind. In the most of these, mental symptoms are slight, variable and often transient. In many cases, however, mental disturbances form an essential feature of the clinical picture."

The methods of investigation of mental symptoms in brain tumors, as evident from the periodical literature, can be divided into two general classes—direct and indirect. The first consists of the studies made by observing patients and the other by reviewing case



records and cases reported by other men. The subject matter presented can be also divided into two general groups: One—presentation of the clinical picture, the other—evaluation of the symptoms as to their mechanism and localizing value. The clinical presentation itself may be subdivided into three methods: (1) general discussion of symptomatology, (2) association of certain symptom complexes with certain regions of the brain, and (3) attempts at classification of symptoms.

### GENERAL SYMPTOMS

Henry found that according to various authoritative estimates, mental disturbances accompany brain tumor in 40 to 100 per cent of cases. The discrepancies, he believes, are dependent upon the interpretation of the phenomena observed, rather than upon inaccuracies in observation.

Practically all patients with brain tumor show a certain degree of mental impairment, in the form of apathy, defective attention and concentration, dullness of intellect, and slowness of response. In the later stages dementia, drowsiness, stupor and coma supervene. Schuster in 775 cases of brain tumor with mental symptoms, collected from the literature found, 423 to show such changes. The remaining 352 manifested states resembling other psychoses; such as "epileptic character," maniacal and similar states (95), melancholia or milder depression (57), confusion and hallucinatory delirium (52), symptoms resembling those of general paresis (29), euphoria, moria, hypomania (23), chronic paranoid states (19), and symptoms resembling those of neurasthenia and hysteria (15).

Charles Lewis Allen states: "In cases presenting the picture of organic dementia, general paresis and vascular disease being excluded, brain tumor must be considered." He further continues: "A picture not infrequently seen is that of a general mental slowing down and inability to carry out ordinary duties, with possibly occasional periods of confusion; but, on talking to the patient, he can be aroused, is surprisingly well oriented, can receive and coordinate impressions, his memory is fairly good, he expresses no delusions, but shows little spontaneity, and, if left to himself, dallies helplessly around."

Frederick P. Moersch in this connection makes the following statement: "A great many ill-defined symptoms relating to general psychotic disturbances are not easily classified. It is generally believed that a steady progressive stupor exists; this however, does not appear to be entirely true. Among the generalized symptoms, irritability, listlessness, mental and physical let-down, apprehension, uncertainty, and hebetude appear to be the outstanding changes. Later, apprehension may give way to indifference, but anxiety is not an uncommon symptom, especially in the earlier stages of the disease. As the disease progresses, apathy, stupor and coma may supervene. These are generalized symptoms and have no localizing value."

Davidoff divides brain tumors in the insane into two general types: namely, "Those who slowly develop mental deterioration unaccompanied by any outstanding organic neurological abnormalities, and those who quite suddenly pass from apparent good health into a state of stupor or even coma, mental irresponsibility, and incontinence and who show evidence of widespread cerebral and meningeal disease or irritation. The former eventually prove to have slow-growing, usually meningeal tumors (in 20 meningiomas removed at autopsy in New York State Psychiatric Institute, neurological symptoms were either absent or in background and missed) and the latter rapidly growing gliomas, most commonly, glioblastoma (spongioblastoma) multiform—the latter are described by Elsberg and Globus as 'acute brain tumors.' Sometimes they grow so rapidly that they provoke acute mental symptoms resembling delirium and other toxic encephalitic manifestations. This frequently amounts to a complete dementia. The patient shouts, hallucinates actively, is resistive, pugnacious, incontinent of both urine and feces. These patients, previously apparently well, were picked up in the streets wandering aimlessly, improperly clad, confused, disoriented, unruly, and presenting acute social problems. These tumors, moreover, tend to occur most frequently in the left temporal lobe and the resulting speech disturbances simply add to the apparent disintegration of the individual. Such uncontrollable states may alternate with periods of stupor, even coma. Unlike the cases of the first variety, these patients present a confusion of ab-

normal neurological signs in addition to the mental changes which make the diagnosis difficult to distinguish from acute encephalitis. Such patients seldom present histories of longer than four months duration."

#### LOCAL SYMPTOMS

##### *Frontal Lobe*

Frontal lobe is considered by a majority of investigators to be the region of the brain, the lesions of which most frequently and most constantly produce symptoms of mental disorders. Baruk found early and severe mental disturbances in 9 out of 11 verified cases. According to Schuster, tumors occupy the frontal lobe in nearly 20 per cent of all cases in which mental symptoms are prominent. Because of this almost generally accepted predominance of the frontal lobe tumors as a causative factor of mental symptoms, this subject will be taken up in some detail.

The exact knowledge of the function of the frontal lobe is scanty and indefinite. Certain characteristic phenomena, however, were observed in study of experimental animals and soldiers with distinctive lesions in that area. Bechterew describes his animals after removal of one or both frontal lobes as apathetic and drowsy, but at times they were irritable, impulsive and aggressive, suggesting a lack of higher inhibition and diminished faculty of adaptation. Bianchi emphasizes disturbances of attention, shown by failure to react to threats and other stimuli, lack of all emotional reactions, defective association and probably some loss of memory.

The European war gave the opportunity of observing in man the effect of purely destructive lesions of the frontal lobes comparable with those produced by physiologists in animals. The most important of those on the psychological side were: apathy, indifference, lack of interest in self and the external world, loss of initiative and energy, especially in mental work, defective attention, and associated with it, some degree of loss of memory for recent events and frequently irritability and impulsiveness, often culminating in periods of excitement and restlessness. A release of instincts from higher control has been also described, resulting in anti-social attitudes. Welt, 40 years ago, described moral perversions in a series of cases of frontal tumors.

Von Monakow concluded from a survey of clinical experience, that though the frontal lobes could not be regarded as the seat of intelligence, they took an important part in the association and elaboration of intellectual data. Alfred Gordon comments on review of similar studies as follows: "All such studies while they do not settle definitely the question whether the frontal lobes form a special center for psychic functions, nevertheless they suggest the possibility of their possessing the power to coordinate the psychic functions more than any other portion of the cerebrum."

Gordon Holmes states that in frontal tumors mental disturbances may appear early—occasionally being the first evidence of any cerebral abnormality. He divides the symptom complex into four types.

The most common type is characterized by an apathy and indifference of the patient to his own state or to relationships that would normally interest him—the patient lies in bed unoccupied, uninterested, with a dull, immobile expression, and with a little or no show of emotional spontaneity. He presents all evidence of mental retardation; the comprehension of questions and answers to them are delayed, and even movements, whether spontaneous or to request, are slow and deliberate. There is little show of initiative and attitude and bearing of the patient are consequently those of abnormal passivity. Attention particularly suffers, there is a marked tendency to tire of all mental operations—all the symptoms noted suggesting neurasthenia. Memory may be equally affected particularly for recent events, as though, owing to inattention, the patient is unable to fix and retain impressions. Occasionally amnesia is one of the most prominent symptoms. In one case the first symptom was a complete blank for several hours.

In the second type the chief symptom is depression associated with general mental enfeeblement, drowsiness, and sometimes, with periods of stupor. The patient is passive and immobile, and reacts in an unemotional, almost mechanical manner to every stimulus. He is frequently incontinent and undisturbed by the wetting and soiling of his bed, when his attention is drawn to it. There is often some confusion too, especially when fatigued, and memory is defective and unreliable. The amnesia may, however, be more

apparent than real and due to carelessness, inattention and lack of effort to recall.

The third type is generally regarded as more characteristic of frontal tumors; though not limited to the location and not as frequent. The patient is restless, exuberant in conduct and conversation, euphoric, unconcerned with his state, grave though it may be, and forgetful of the violent headache and distressing vomiting with which he may have recently suffered and will suffer again. He is generally egoistic, irritable, and childish in conduct and speech; shows a tendency to facetiousness, especially to punning or perhaps to practical joking—*witzelsucht*. This gaiety alternates with periods of depression. The state is, in fact, characterized by an irresponsible childishness and a lack of inhibition and reserve.

In the fourth type, the clinical symptoms have a superficial resemblance to those of general paresis. The patient presents all the symptoms of general mental enfeeblement with failure of memory, lack of higher control, leading occasionally to antisocial acts and a tendency to extravagance in speech and conduct. Though the evidence of mental deterioration may be striking, it is often due to confusion rather than dementia. When these mental changes are associated with tremulousness and poverty in expression, both frequent signs of frontal tumors, as well as with a dysarthria or a mild degree of aphasia and convulsive phenomena, the resemblance to general paresis may be striking.

Description of mental symptoms in frontal lobe tumor by other authors falls under one or the other symptom complex presented above. The only other reference on this subject which the writer wished to mention is Alfred Gordon's observation of puerilism, which he found present in four out of eight cases reported by him. He states: "Puerilism was rendered striking by the infantile character of the patient's replies, by the intonation of the voice, by the mimicry, by the childish interest in things childish, by the impatience and obstinacy typical of children in their motives and desires. It was usually associated with exuberant phase. It occurred intermittently until later stage of disease, when intracranial pressure reached its maximum."



Sachs mentions a case of a young, "very intelligent, fastidious, charming college graduate," with a right frontal lobe tumor, who, when she was seen by the author, "lay in bed playing with a toy dog, was constantly soiling herself, and was not bothered by it, and had lost all her memory for both past and recent events, though her speech had never been affected." (Incidentally, a few weeks after an operation her mind cleared up and all her faculties returned.)

It should be stated here that really the most common tumors with mental symptoms are those of the corpus callosum. But, as Alfred Gordon states, and some other authors believe, the corpus callosum, by virtue of ample connections which it establishes between both frontal lobes, could be considered as an integral part of the frontal brain, so that lesions in the former cause about the same symptoms as those of the latter. On the subject of tumor of corpus callosum, Davidoff states: "In cases of tumor of corpus callosum, the psychic changes may not be characteristic of the location of the disease, but apraxia, if typical and recognized, may be very valuable in diagnosis." As an example he cites a case of a patient who was treated as insane because he frequently urinated in his dishes after eating and tried to put his legs into sleeves of a dressing gown. Autopsy revealed a glioma of corpus callosum.

*Temporal lobe*—Kolodny thinks that in temporal lobe tumors, memory defects, while occurring later, are more common than with frontal tumors. Defects of memory occur for both recent and past events unlike the frontal lobe cases, in which memory for recent events only is lost. It is more often associated with left than right sided tumors; possibly because memory is in part dependent upon the intactness of auditory and visual impressions, which suffer in a disruption of the sensory component of the speech mechanism. There may be also changes of personality—the patient may be euphoric or melancholic, eventually silly and childish. Another symptom of temporal lobe tumors is the strange intellectual "dreamy state" or "voluminous state" as Hughlings Jackson called it. This state is described by one of Foster Kennedy's patients as follows: ". . . An overpowering sensation as if I am going into a sound slumber . . . a kind of dreaminess . . . a far-



away unearthly feeling . . . nearly always there is a terrible sensation of fear; I am aware that there is nothing to be afraid of; this fear is not associated with any object or person whatsoever—I know everything is all right.” These phenomena as a rule are associated with uncinate spell, which consists of hallucinations of taste or smell, usually of a disagreeable nature. They are described as nasty, slimy, horrible, disgusting and nauseating. The spell may be an aura preceding a generalized convulsion or may be followed simply by the dreamy state.

In speaking of hallucinating phenomena associated with brain tumor Sachs relates as follows: “When the lesion is in the posterior part of the first temporal convolution, there may be hallucinations of hearing. Over and over again the patient may experience the same auditory disturbance. If the lesion involves the temporal lobe more anteriorly there may be gustatory or olfactory auras, while if the region in the middle lobe is involved, those fascinating attacks, designated by Jackson as dreamy states occur.” If the temporal portion of the visual tract is involved visual hallucinations most commonly of form, people, animals, or some peculiar objects, may occur. Sachs continues: “It is of interest and great importance to realize that patients with those hallucinatory phenomena due to tumor, may be otherwise entirely normal mentally. As these hallucinations frequently occur at considerable intervals, the patients may not only appear quite normal, but they may be quite unaware that anything serious is the matter with them.” The author demonstrated this state of affairs by two cases. One was a hotel proprietor, with a tuberculoma of his left temporal convolution, who for many years heard the same peculiar sound like the ringing of bells. In all these years his mind was perfectly clear and he attended to his business without any difficulty. Another one was a school teacher with an angioma of her right temporal lobe “who, while going to school had typical attacks of dreamy state, in which she imagined she was a character in an Elizabethan play. With these attacks she had a partial left homonymous hemionopsia. She carried on her teaching during the time she had these hallucinations. They in no way interfered with her work and in every other respect she was perfectly normal.” Horras

found visual hallucinations in 17 out of 72 temporal lobe tumors; 12 were of formed character and 5 of more simple nature.

Rowe observed mental changes in 26 of the 52 cases of varified tumor of temporal lobe. He states: "The largest portion of this group showed principally disturbances of consciousness described variously as drowsiness, stupor, mental dullness and impaired consciousness."

*In basal tumors*—Manifestations in the form of somnolence, disorientation, memory disturbances or stupor appear early and continue most prominent. Tumor of third ventricle, and basal ganglia give rise to choreoathetoid movements, rigidity, tremors, tonic and clonic convulsions, hemiparesis and involuntary laughing and crying. Occasionally the cries and howling of animals in distress were observed. The clinical picture often closely resembles catatonia, paralysis agitans or post-encephalitic Parkinsonian syndrome. As a rule the patient tends to be immobilized, has a mask-like face, drools saliva, maintains a stooped position and sometimes has a propulsive gait. When overactive he is likely to be irritable and impulsively aggressive.

*In parietal tumors*—Most commonly is observed a kind of astereognosis in which the patient not only is unable to recognize the shape and nature of familiar objects with the hand contralateral to the lesion, but he also retains no memory of their size, shape or form; also aphasia and apraxia when tumors are situated contralateral to the hand most freely used.

Mental symptoms in tumors of the brain beyond this region usually occur in the late stages of the disease, if at all, and are entirely due to greatly increased intracranial pressure, except perhaps of simple visual hallucinations such as flashes of light or color, which may occur in tumors of occipital lobe and crude tactile hallucinations which may occur in pontomedullary tumors and which are described as sensations suggesting ants creeping in or upon the skin.

#### CLASSIFICATIONS OF SYMPTOMS

As to this method of presentation Louis Minski's paper will be discussed. The author divides the mental changes in brain tumor into four general groups and correlates them with various localities as observed in a study of 58 cases.

In group I are included cases in which mental changes simulate functional psychoses. There were 28 of such cases. Of these 14 were states of depression with the following distribution of location of the tumor: Right frontal (1), left frontal (8), right temporal (2), corpus callosum (1), cerebellum (1), right motor area (1). All of the patients had long histories before admission; average—5 years, longest—12 years, and shortest—1½ years. “Six patients showed typical depressive states, indistinguishable from ordinary reactive depression, without any intellectual impairment. The other eight patients did not show such typical states, but rather tended to show an exaggeration of their normal depressive tendencies. All these patients were described by their relatives as being of a quiet disposition, somewhat anxious, pessimistic in outlook and inclined to worry. The marked feature in all these cases was the gradual increase in depressive tendencies already noted in the patient’s ‘make-up.’ They tended to become anxious and apprehensive, were extremely introspective and worried about their bodily health, and in some cases, became self-absorbed and apathetic; in others they were agitated, fidgety and restless.”

There were seven cases with states of excitement. All of these patients have been described by their relatives as being of jolly disposition, looking on the bright side of life and always fond of jokes. Lesions were found in left frontal (3), right frontal (2), left temporal (2). After the development of the tumor, these patients showed a gradual increase in their normal tendencies. They became facetious, treated their illness with undue levity, joked and punned and were amused at any trivial occurrence. They showed no insight into the severity of their condition, but were elated and definitely euphoric, stating they had never felt better. Schizophrenic reaction was seen in a patient with a pineal tumor. In this case the reaction appeared to be as a purely intercurrent illness. The patient had physical signs suggestive of pineal tumor, for four years before she developed an acute psychotic episode. She became excited, restless, noisy and impulsive; she talked in a disjointed manner, grimaced; was negativistic and resistive. After four months she recovered completely, but the physical signs persisted. About 18 months after leaving the hospital the patient remained

well mentally. Anxiety state—in one case of a woman of 45 years, who died with a right frontal tumor, without impairment of memory or neurological signs. Obsessional features occurred in a man 55 years of age, with a left frontal growth. Hysterical features occurred in a girl of 23. Six weeks prior to her illness, her family made her break off an engagement against her wish, and this upset her considerably. She became mildly depressed and apathetic, refused food and suffered from anorexia and vomiting. There was no impairment of memory, but vague physical signs were present. The day after admission, the patient became unconscious and died. Post-mortem a large glioma of the right parietal lobe was found.

In group II are included cases with marked organic mental changes without clouding of consciousness. Of these there were 23 cases. Distribution of lesions was as follows: Left frontal (9), left temporal (7), left parietal (4), right temporal (1), right parietal (1), thalamic (1). It will be seen that left-side tumors predominated in 20 out of 23 cases. The average history given was shorter than in the functional group, but longer than in the delirious group. An early feature in these cases was irritability with easy fatigability. The latter was marked in testing memory—in early stages of examination, answers were given correctly and fairly rapidly, but as it proceeded, they were given only after long intervals and were often incorrect. Memory showed the usual impairment noted in all organic brain diseases.

Recent impressions were lost first, (due to poor retention) and in later stages, remote memory was impaired also. Confabulations were uncommon. The intellectual functions at the same time became disturbed, thus judgment, discrimination and critical faculties were markedly impaired. Coincidentally, speech became slowed and retarded. Perseveration was present in 12 patients, all with left-side tumors (7 frontal, 4 temporal and 1 parietal). Orientation became disturbed in later stages, first in time and space and finally for self. Emotional lability was often marked, the patient passing very readily from laughter to tears and with very little causation. As the intracranial pressure increased, the patients passed into a somewhat apathetic state, from which they could be aroused. Marked variability is often present in this state, at one

time the patient being somewhat difficult to arouse, and at another, alert and well in touch with his surroundings.

In group III are included cases with marked organic mental changes with clouding of consciousness. Of these, there were six cases, with locations in left temporal (3), left frontal (1), corpus callosum (1), right parietal (1). All these patients gave comparatively short histories—from six weeks to 12 months. Their illnesses were typical confusional states. (The symptomatology was similar to "acute brain tumors.") They were completely disoriented, their memories were grossly impaired, conversation was rambling and incoherent, and identities were mistaken. They were noisy, restless, excited, and showed great variability of mood. At times they were suspicious and querulous, at times depressed and apprehensive, while at other times they were laughing and playful. They expressed fleeting and ever-changing delusions. Hallucinations of both sight and hearing were present in all cases. Incontinence of urine and feces was common. Five of these patients showed physical signs.

In group IV are included cases with hallucinations without any other psychotic phenomena. Of these, there were four. Two patients with a left frontal tumor and one with a left temporal tumor in a setting of clear consciousness, complained of smelling a bad odor all day. One patient with a tumor of corpus callosum, extending into the precuneus, saw with her eyes closed, figures of unknown men and women moving across the visual fields. These figures were not seen when the eyes were open.

On the subject of visual hallucinations, T. Leon Meyers states: "Another manifestation of mental disturbance met with in brain tumors, are visual hallucinations, especially the elaborated type. These were first described by Hughling Jackson in a tumor of temporo-sphenoidal lobe. One patient saw "a little woman actively engaged in cooking." Foster Kennedy's patient saw "a strange woman clad in rags."

Davidoff comments that such formed visions characteristically repeat themselves in every detail. The important point about these patients is, however, that they usually have perfect insight, and



are fully aware that these visions are creations of the mind or disturbed cerebral function.

Henry gives a somewhat more detailed summary of visual hallucinations. "The quality of the hallucinations is somewhat distinctive. A large proportion of the visual hallucinations consists of flashes of light, vividly colored lights or objects, or contrasting 'black darkness' and 'dazzling white.' There may be scintillating scotoma or merely slight elaborations of specks or spots. Animals of all kinds and sizes are commonly seen. There is usually a great deal of activity in the form of rapidly moving lights or objects, dancing figures, floating balloons or the common movement of animals. Human beings appear as faces or the whole individual may be observed in a familiar scene. More often there is some distortion in the apparition, or the behavior of the hallucinated person is strange and grotesque."

As to auditory hallucination, Courville remarks: "Auditory hallucinations are infrequent, when they occur are associated with frontal and temporal neoplasms. Those associated with temporal lobe tumors are usually accompanied by hallucinations of sight, smell and taste, as well as other mental changes."

And Henry elucidates on the subject of auditory hallucinations: "Auditory hallucinations associated with tumors of the frontal or temporal lobes almost always include voices or singing, bells or other forms of musical sounds. This form of hallucination occasionally is observed with tumors in other regions but it is in marked contrast to the ringing, buzzing, hissing, blowing, whistling sounds or the loud roaring, splitting and crackling noises which frequently are associated with tumors of the posterior cranial fossa."

Returning to Minski's paper we find the following additional facts of interest:

*Aphasia*—"Twenty-three of the patients showed some degree of aphasia on admission, and in all cases the aphasia was a combination of motor and sensory varieties. It varied from mild degree when the patient used a wrong word occasionally, and recognized the fact, to an unintelligible jargon, when newly-coined words were used and the conversation was a mere incoherent hotch-potch. In many cases aphasia was not recognized; their rambling and



disconnected talk was interpreted as gross mental disturbances and they were committed to the hospital. In most cases the aphasia was increased by emotional upset such as excitement of any kind and in a few cases was present only following a generalized convulsion."

*Fits*—Twenty-four patients admitted gave a history of fits. Lesions were distributed in various areas, predominantly on the left side—left frontal (11), left temporal (5), left parietal (4), right frontal (2), corpus callosum (1), cerebellum (1).

Incontinence of urine and feces occurred in nine cases, incontinence of urine alone, in 10 cases, incontinence of feces alone, in none. In all these cases the patients realized that they were incontinent, but they were quite indifferent to the fact.

Physical and mental stress were considered as precipitating factors in many cases. Nineteen of the 58 cases were definitely associated with stress, such as, accident (4), financial worry (2), illness or death of relatives (3), dermatitis, influenza and pregnancy (3), overwork, religious worry and love affairs (5). In all cases but one, the onset and progress were insidious. The one case presents a rather dramatic picture: "A man previously in good health, who worked as a guard on the underground, saw a girl attempting to board a moving train, and she slipped between it and the platform. He rushed to help her and she regained the platform unhurt. He was very much shaken by the incident but managed to finish his day's work. On returning home, he attempted to write a letter to his brother, but was unable to do so as his hand felt weak (he was right-handed). The next day his right arm and leg were paralyzed and he became aphasic. He was admitted to the hospital but became comatose and died. Post-mortem examination revealed a glioma with a recent hemorrhage in it."

As an example of the insidious onset and progress of mental symptoms after stress, we may consider the case of the girl reported above and another case of a patient who sustained an injury to his arm and began to worry lest he should become paralyzed like his father. He became depressed and attempted to commit suicide. His illness was noted by his friends as dating from this accident, prior to which he had been quite well. Post-mortem a tumor of

corpus callosum was found. Apropos of this case perhaps it will be timely to mention Henry's comment that from a study of over 1,000 cases reported in literature, suicidal tendencies were observed in about 10 per cent of the cases.

Twenty-four of Minski's 58 patients showed localizing neurological signs, 24 showed vague neurological signs, and in 12, physical signs were completely absent on admission.

#### MECHANISM AND LOCALIZATION VALUE

From the review thus far, it is fairly evident that there is a general agreement in the description of mental symptoms found in brain tumors. The situation is much different when we come to consider the hypotheses of the mechanism of these symptoms and their localizing value. The various opinions fall between such extreme limits as—a dogmatic statement by Meyers that “increased intracranial pressure does not in itself produce the mental disturbances that are associated with tumors of the brain; mental disturbances associated with such lesions are to be regarded as focal phenomena, being produced by an impairment of specific function in different regions of the brain.” But there is on the other side a prophetic statement by F. L. Gola: “Psychiatrists have always looked rather wistfully to the clinical study of cerebral tumors. They are influenced almost unconsciously by the hope which we all find it so difficult to eradicate, however much we may publicly deny it, that the inconceivable complexity of mental life may be resolved into a number of static mechanisms. Psychologists sin in this respect as much as clinicians. It is that static view, rather than the dynamic, that has led to the futile catalogues of instincts and sentiments and the wooden mechanisms of the psychoanalyst. The mind and its nervous substrata function as a whole, and psychiatry is little likely to derive much help from the study of isolated lesions.”

At the first neurological congress in September, 1931, Sir James Purves Stewart reviewed the general mechanics whereby a progressively expanding tumor affects the brain and produces symptoms. The clinical evidence at the presence of such a lesion re-

sults from pressure on and displacement of adjacent fibre tracts, rather than from actual destruction of nerve elements by the tumor. But the most important factor in the causation of symptoms is the interference by the tumor with the circulation of the blood and the cerebrospinal fluid in contiguous areas. As the tumor increases in size, adjacent blood vessels are compressed and about the periphery of the lesion a zone of venous engorgement is produced with consequent irritative phenomena. As the tumor expands still farther, nearby capillaries are obliterated, anemia of the surrounding tissue occurs, and paralytic clinical symptoms result. As the lesion progresses, therefore it produces an increasingly large paralytic zone, surrounded by a still wider zone of irritation."

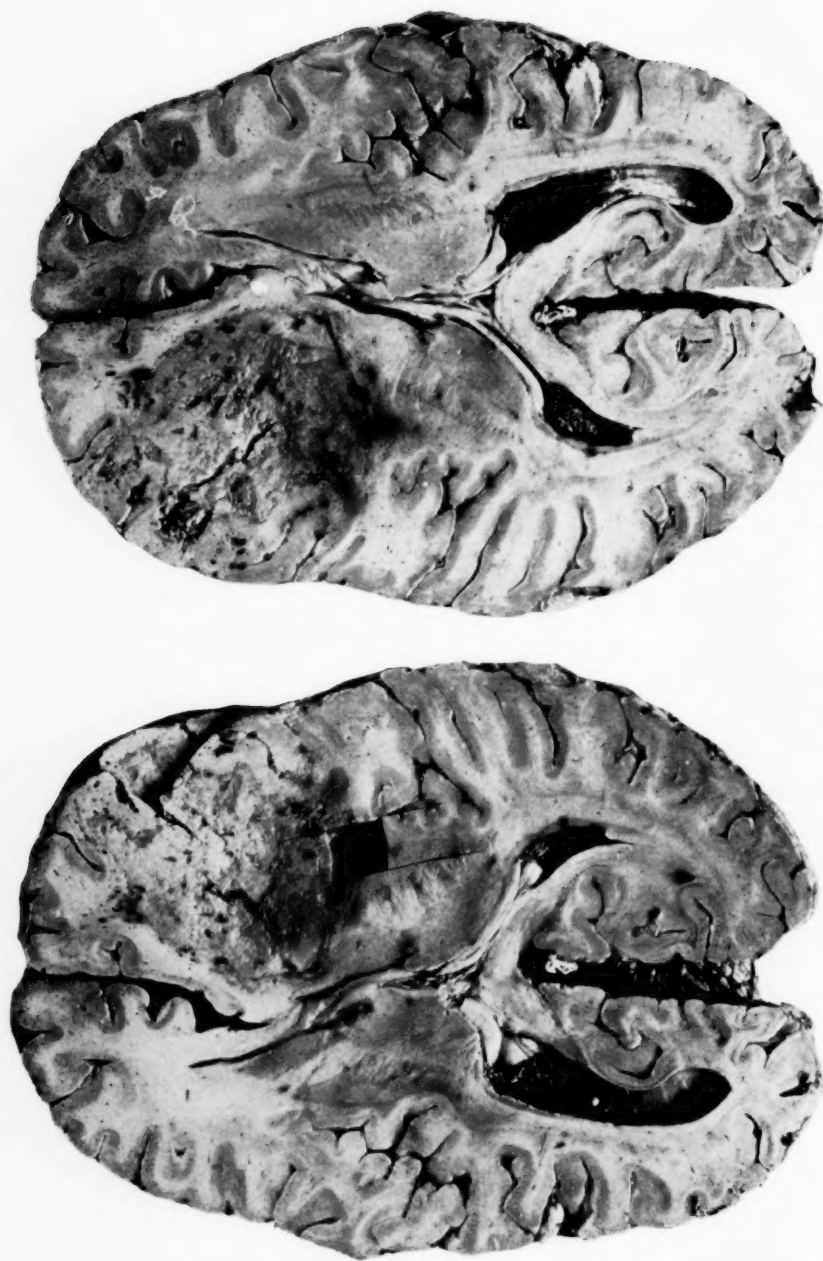
Gordon Holmes discusses various hypotheses offered as the causes of mental symptoms. (1) "Diffuse inflammatory reaction in the meninges is offered by Klippel and others; it has been compared with the meningeal changes of general paresis and cerebral syphilis. However this is found to be too inconstant in brain tumors, and when present of too mild a degree. (2) Others, as Dupré, have assumed that they are due to a cerebral intoxication by the products of disintegration of the brain or of degeneration of the tumor. Perhaps the only growths in which the mental disturbances can be attributed to a toxic reaction of the brain, are the stalk tumors in which pyrexia, urticaria, and often symptoms of acute cerebral intoxication occasionally occur in association with mental disturbances, probably owing to rupture of a cyst producing a sterile meningitis and hydatid cysts of the brain in which similar phenomena may develop." (3) The author asserts: "that the increased intracranial pressure due to presence of a tumor or to edema around it is the most common cause, can be scarcely a matter of doubt. Raised pressure may disturb the functions of the brain by compression, by interference with circulation, and especially by impeding the drainage of the cerebrospinal fluid. The rapid disappearance of such common symptoms as drowsiness, apathy, stupor or confusion, after a simple decompression, or after the relief of the intracranial tension by the intravenous or rectal administration of hypertonic solution, is convincing evidence that these symptoms are frequently due wholly to it. In many cases, how-

ever, the site of the tumor and structures damaged by it are the most important factors in determining the appearance of mental symptoms. Disturbance in speech mechanism in the left hemisphere is a more common cause of mental symptoms."

Rowe, in his report of the 52 varified temporal lobe tumors, expresses the belief that the mental changes noted were "apparently in large measure due to presence of increased intracranial pressure," and showed no characteristic form. Baruk also believes that the most important factor in mental disturbances is the accompanying increased intracranial pressure, but agrees that some mental symptoms depend upon location of the tumor. Schuster after an extensive study of 775 cases, is inclined to believe in a certain relationship between the type of mental disorder and the seat of the neoplasm. As stated above, Meyers emphatically upholds the same point of view. He substantiates his argument by the fact that in tumors of occipital lobe, which is not essential for psychic integrity, increased intracranial pressure and almost complete destruction of this lobe did not produce any mental symptoms. He further postulates that there are two broad divisions of known function of certain parts of the brain.

(1) "Negative" phenomena which are produced by suppression of the receptive mechanism of the brain, which is located chiefly in the posterior part of the organ, specifically the temporo-sphenoidal lobe and on the left side, also the adjacent angular gyrus. The mental disturbances produced by lesions in this area of the brain are: Mental retardation; gradual impermeability to all those external stimuli (auditory, visual and environmental) which normally generate thought process; oblivion of the patient to his surroundings, including his friends and relatives, and delay in response to questions and demands. The more severe type of mental disturbance resulting from a suppression of the receptive mechanism of the brain is agnosia—the patient suffering from a severe type of this disturbance may be completely impervious to all outside influences which call forth brain activity. This condition may simulate coma or catatonic stupor. Agnosia is produced by a lesion of the angular gyrus of the left side.





Case 1. Infiltrating glioma of right frontal lobe



(2) The "positive" phenomena are produced by a suppression of the emissive mechanism of the brain, which is located in the anterior part; more specifically, the frontal lobe. The latter lobe, being predominantly inhibitory in its action, is associated with hyperactivity of the lower centers, which, when freed from restraint, enact and produce the "positive" type of mental disturbances. This is true not only of the rolandic area of the motor cortex, which, as is well known, exerts an inhibitory effect on the anterior horn cells of the spinal cord, but also of the entire prefrontal area. The mental disturbances are characterized by evidence of unrestrained activity of the subordinate centers. This manifests itself in states of excitation, deliria and even maniacal outbursts, and occasionally of uncontrolled and exaggerated sense of well being.

This general classification of mental symptoms into "positive" and "negative" was presented by M. Bramwell in 1888. He describes "positive" symptoms as irritability, unevenness of temper, crossness, and as "negative" intellectual impairment, loss of memory, want of attention, loss of power of mental application.

C. P. Symonds believes that it was a tumor growing in "silent areas"—either prefrontal, right temporal or corpus callosum—which was likely, in its early stages, to produce mental symptoms without those of intracranial pressure, and that such symptoms depended, rather on the amount of white matter destroyed, than upon its precise localization.

S. A. Kinner Wilson believes that the localizing value of mental symptoms in cases of cerebral tumor is practically nil. He looks upon the likelihood of mental symptoms occurring, as dependent upon the relationship of the tumor to the two chief associational systems of the cerebrum. Is the tumor in question related to the corpus callosum or to the inferior longitudinal fasciculus? The fibers of corpus callosum come from the whole of both hemispheres and are collected there. From anteriorly or posteriorly in the corpus callosum there were more likely to be produced symptoms of psychological order, than if the tumor were elsewhere in the brain. The inferior longitudinal fasciculus was the second largest associational system in the brain (temporal to occipital cortex)

and temporal tumors were particularly apt to be associated with psychological symptoms.

Many authors regard the mental processes as dependent upon the activity of the brain as a whole and liable to be disturbed by anything interfering with the orderly initiation, course and integration of these processes, therefore lesions anywhere in it may be translated into mental disturbances. They maintain that the value of mental disturbances as localizing symptoms is largely nullified by their variability and is opposed to prevailing psychological conception. The mechanism of hallucination production involves various factors and is far from satisfactorily explained. The value of visual hallucinations as a localizing sign may well be regarded with skepticism. These are present in a vast number of cases in which there is no question of tumor.

Jewel Fay questions the localizing value of mental symptoms on the basis that hallucinations, confusion, delirium and mental dullness are not only present in tumors of varying locations, but also in various toxic states. This is especially true in Korsakow's syndrome. The more or less pronounced impairment in perception and elaboration of new impressions is so generally present, and may so easily be due to a number of different causes, that its localizing value appears of little importance.

On the subject of mechanism, Minski concludes from his study that: (1) Mental symptoms in cerebral tumor do not appear to depend on localization, but rather on the rate of growth of the tumor and previous personality of the patient. (2) In slow-growing tumors, personality changes predominate, the mood depending on the release of preformed tendencies. In his series of 58 there were 14 depressive and 7 manic in keeping with the general admissions to Mandley Hospital, in that depressive states are much commoner than manic ones. (3) In rapidly-growing tumors, changes in the intellectual sphere are marked and personality changes are slight, while in more rapidly-growing tumors, intellectual disturbances, with clouded consciousness, are found.

He proposes the explanation, that some disturbance of circulation of the cerebrospinal fluid may cause the symptoms, and that in slow-growing tumors, there is time for the circulation to adjust

itself, whereas in the rapidly-growing tumors, there is not. Davidoff offers a similar theory, in that the slow expansion of the growth in the first group permits its accommodation in the skull with so few disturbances, that even a large neoplasm can be clinically overlooked. A tumor may attain a weight of one, two or three hundred grams. In the second group, the tumor expands so rapidly, that even distant parts of the brain show secondary effects as a consequence of pressure, which result in a malady so generalized that an examiner may feel that it cannot be explained on the basis of a localized lesion.

Another theory of the mechanism of mental symptoms in brain tumor expressed by many writers is summarized by Gordon as follows: "A further analysis of this problem led to further conclusions, namely that the fundamental disorder lies originally in psychogenic disturbances of the individual who under the influence of a morbid character, organic or functional, somatic, or psychic, is inevitably prepared or potentially ready to break down and present at any time a picture of psychotic phenomena. The variations in the clinical pictures, disappearance and reappearance of individual phases, or their substitution by different psychic phenomena, are still further in favor of the above view; they demonstrate the fact that the underlying psychogenic morbidity is constantly being disturbed by progressive cellular, arterial, meningeal and metabolic alterations which are bound to take place in the course of an organic disease of an inevitably progressive course. In the latter, it seems to me, lies the strongest proof of the above pathogenic view. Psychogenic disturbances are fundamental; basic brain lesions even of a gross character are only contributory in development of psychoses."

Brander expresses a similar thought. "The tumor merely determines the onset of what was a latent characteristic in the individual. It is questionable whether, in the present state of knowledge, it is possible to give a definite diagnosis based upon mental symptoms."

A few comments on the "*witzelsucht*" are of interest. Kinner Wilson believes that the localizing value of *witzelsucht* is negligible. Minski states; "This state sometimes called "moria,"

sometimes "*witzelsuch*," appears to depend on the patient's make-up, rather than on any particular situation of the tumor."

Attempts were made to arrive at a differential diagnosis between the psychotic symptoms in brain tumor and those of psychogenic psychoses. For example, Alfred Gordon observed that in brain tumor the depressive phase was not that in which indifference, apathy and abandon figure so prominently as in the classical psychosis. In his series of cases the patients were morose, would hardly respond to questions and showed outbursts of extreme anger even without provocation. Sometimes this phase would be accompanied by a certain amount of confusion which again is not observed in the classical psychosis. He also observed that in all cases of brain tumor, the individual psychotic phenomena, although repeated, were only temporary and transient, in the intervals of which the patients were lucid.

Moersch corroborates the same point of view. "Observations were made at various times in the course of the disease, and it should be remembered that the mental phenomena fluctuate much more than do the neurological signs."

And thus we see that the status of mental symptoms of brain tumor is about the same as of many other clinical phenomena in medicine. The clinical picture is usually fairly well described and generally agreed upon by a majority of observers. However, when it comes to interpretation of these phenomena, the same observers part their ways, and many theories, at times contradictory, arise. In any event it is an accepted fact that mental symptoms may play an important role in diagnosis of brain tumor. As to the elucidation on the mechanism of these symptoms, and their value in throwing more light on the relation of the brain to the psychic activities, and the specific mental functions of certain regions of the brain, the matter is still in the realm of future research.

#### CASE REPORTS

The following two cases, from the writer's personal experience, demonstrate mental symptoms as early or predominant factors in brain tumor:

CASE No. 1.—W. R. W. was a patient admitted to Hudson River State Hospital, December 8, 1931, at the age of 46. His father was alcoholic and very strict. Mother died of "internal tumor." Of six siblings, one girl was described as of a nervous temperament. Patient was of normal birth and had an uneventful development. He had diphtheria at 10 years, typhoid fever at 20 years, an attack of gall stones at 39 years, otherwise his health was good. There was no history of syphilis. He received a high school education, had been employed in various industries, and remained at his last place of employment steadily for nine years until one year before admission to this hospital, when he went into business for himself. He was described as congenial, cheerful, optimistic, sociable, easy-going, living up to his income without any plans for the future; he had an even disposition. He was married at the age of 27 years to a widow. There were no children by this marriage.

The onset of the symptoms of his illness began about the middle of September, 1931, when it was noticed that his memory began to fail. At times he appeared confused, had difficulty in naming things which he wanted, e. g., asked for huckleberries when he wanted to buy cherries. He was unable to address his friends by their right names. Shortly afterward he began to complain of headaches, which came on at regular intervals, and which were diffusely localized but predominantly in the frontal region. He gradually became more indifferent to his surroundings and also became sexually impotent. At the same time, there was noted a quivering of his lips and tremor of the tongue. On advice of a physician he entered a general hospital in November, 1931, spending 10 days there.

The following is a report from this hospital:

"Diagnosis—Psychosis. On admission, no abnormal findings, other than depressed state of mind, with a tendency to sleep. General physical condition good. Knee and ankle jerks exaggerated. Present trouble began about six weeks before admission. Loss of pep and ambition. Slipping in his work, felt drowsy, some loss of weight. At one time complained of headache. Condition on discharge—unimproved."

On return home his condition became gradually worse. During



the course of his illness he showed marked physical reduction. He lost from 40 to 50 pounds in weight. He became incontinent of urine. At times he had an excessive appetite. After finishing a meal, he would apparently forget that he had eaten, and demand more food. At other times he refused food. He became dull, indifferent, and practically mute. On admission to the Hudson River State Hospital, December 8, 1931, patient required bed care. Physical examination revealed an extremely emaciated man in a semi-moribund state. Pulse was rapid, thready; rate 120, B. P. was 100/86. There was no rigidity of the neck present. Eyes showed a slight exophthalmos with pupils active to light and accommodation. Eye grounds showed moderate papilledema. Knee jerks were unequal, with left moderately active, right diminished. Abdominal reflexes were absent, cremasteric—present. Plantar reflexes were active. There were no abnormal reflexes elicited.

Patient was quiet, dull, semi-stuporous, incontinent of urine. He had to be aroused to reply to questions, to most of which he answered, "I don't know." A tentative diagnosis of frontal brain tumor was made. Patient failed rapidly and died on December 14, 1931, before any laboratory study could be made. On post-mortem examination, the brain showed considerable enlargement of the right hemisphere. The convolutions, particularly over the frontal half, were flattened. Beneath the surface of the posterior frontal convolution on the right side was a firm, infiltrating new growth. Microscopical diagnosis of this growth was—glioma. The outstanding features in this case were intellectual impairment, aphasia, urinary incontinence, sexual impotence, rapid loss of weight, and apparent absence of any striking neurological signs except for papilledema, which was noted a few days before death. The clinical picture and the rapid progression of the disease are rather typical of an infiltrating, malignant growth.

CASE No. 2.—I. A. K. was a female patient admitted to Hudson River State Hospital on December 14, 1932, at the age of 62 years. Patient's grandmother was in a mental hospital in Germany, otherwise ancestral and family history was negative.

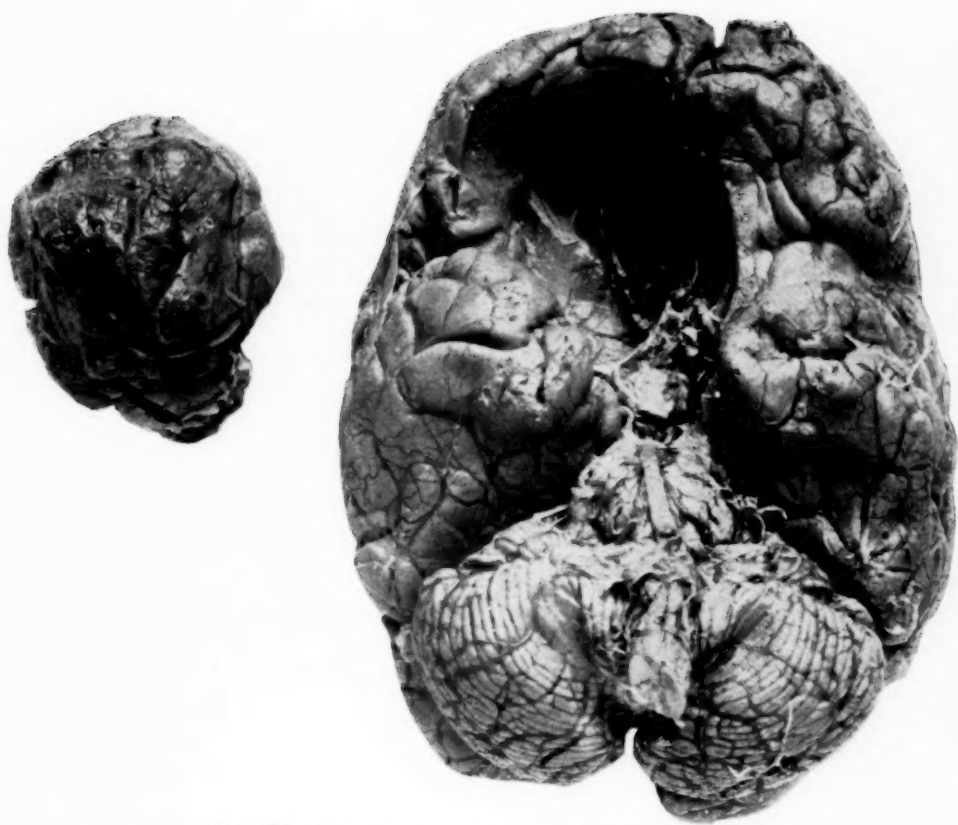
Patient was of a normal birth, had an uneventful development. Her health was always good except for an abdominal operation in



Case II. Pituitary tumor in situ







Case II. Pituitary tumor removed from its position



Case II. X-ray plate showing erosion of the posterior clinoids of the sella turcica and the enlargement of the dorsum sellae

1918, when a degenerated ovarian cyst was removed. The patient received the equivalent of a high school education in a private school; she showed literary ability. Menses were established at 14 years, were regular. She had an uneventful menopause at the age of 49. She was married at the age of 30 to a man 13 years her senior. By this union there were no children. Patient was described as an intelligent woman who had good poise, exercised good control over her emotions, and always appeared happy and cheerful. She was energetic, had excellent judgment, was optimistic, enjoyed good literature, classical music and operas.

The husband dated the onset of the patient's illness to July, 1931, when she learned that all their savings were lost because of default in Strauss bonds. She felt that in their advanced years, they would never be able to redeem their losses and shortly after, there was noted a marked change in her personality. She became disagreeable, critical, and showed a tendency to nag. Her appetite continued good and she slept well. After the first shock of this loss was over, she never referred to the matter again. She became subdued, sat quietly, occasionally wept, but she still retained some interest in the current events and made an attempt to carry out her usual routine. She expressed some insight into her condition by making remarks to her husband, such as: "There is something wrong with me"—"I don't know what it is"—"I have no mind." After May of 1932 the patient gradually began to lose control of her bladder and later of her bowels. She was rather sensitive about this. In August of 1932 there was noted a slipping in her efficiency. During the year before admission to the hospital, the patient gained about 20 pounds in weight. For about a year there was noted intermittent twitching of the right arm. A few months before admission she began to complain of impairment of her vision. At approximately the same time there was noted a failing of memory. Patient never complained of vertigo or headache. There was no history of vomiting, convulsions, or any change in her speech. She did not express any trends, delusions or hallucinations. She was treated by her family physician who considered her psychotic and by a consultant who made the following diagnosis: "Marked toxic absorption from intestines, gums and sinuses, some

chemical disturbance, gall bladder catarrh, nervous constipation; all these causing certain neurasthenic symptoms." She had two hospital residences, however, her condition was gradually becoming worse and she was finally committed to the Hudson River State Hospital on December 14, 1932.

On the day of her admission she appeared fairly alert, and was approximately oriented. She registered her complaints as pain and weakness in the legs, loss of memory and feelings of depression and melancholy. The next day she appeared somewhat dull, disinterested and showed some memory impairment.

*On physical examination*—It was noted that the gait was somewhat unsteady; there was general weakness of all extremities, but no gross evidence of paresis or paralysis. Balancing was poor. Coordination was only fair. Romberg was negative. Deep reflexes were hyperactive. Abdominal and plantar reflexes were active on both sides. There were no abnormal reflexes noted. While the patient was ambulatory, she was subject to an occasional fainting spell. This was described by the nurse as a momentary swaying from side to side, followed by apparent weakness in the knees with slumping to the floor. The patient did not become unconscious following these spells and made an attempt to get up immediately. As she was helped to her feet, she rapidly returned to her usual state. Handwriting was normal. Speech, no aphasia. Articulation was normal, however, in her speech and in writing, patient showed some perseveration. For example, at one interview, patient gave the date as June 1, 1919. When asked when she came here, said June 1, 1919. Later said that she came from Albany. (What date?) "Seventeenth." (17th of what?) "Seventeenth of Albany." On one occasion, patient wrote, "thiis has beenn an unusuallly warm winnter". With the exception of general hypersensitiveness to superficial pain, which was more marked on the right side, no abnormalities were noted in the sensory system. There was definite anosmia on the right side. Vision—right eye, 1/200; left, 20/40. Right fundus showed optic atrophy (some retinitis). Left fundus was normal. Patient was uncooperative for a perimetric examination. Eye muscles normal. There was slight left facial weakness, with tongue deviating slightly to the right. Pa-

tient was rather an obese woman with soft hair and short, thin, tapering fingers. Heart, lungs and abdomen showed no abnormal findings. Radial vessels were moderately sclerosed. Pulse—72. B. P. 122/84.

*Laboratory findings*—Urine, albumen—trace, many hyaline casts. Blood sugar—88 mg. per 100 c.c., blood urea—12.4 mg. per 100 c.c., blood count—hgb. 70 per cent, RBC.—4,250,000, WBC.—9,600, POL.—6 per cent, lymph.—25 per cent, MON.—9 per cent, EOS.—1 per cent.

Examination of spinal fluid, which came out under considerable pressure, revealed: one lymphocyte, globulin much increased and Wassermann, negative. Basal metabolism was —12. X-ray examination of the skull was reported as follows: "There is evidence of erosion of the posterior clinoids of the sella turcica with enlargement of the dorsum sellae so that the longitudinal diameter is over 20 millimeters." Mental examination showed the patient was pleasant, agreeable, cooperative, but confused. She had difficulty in finding her way about. She wet and soiled, and required considerable care. She carried on a conversation in a fairly relevant and coherent manner and displayed no abnormal ideation, however, she presented a blank, emotionless facial expression; appeared dull and disinterested. There was considerable impairment of sensorium, which appeared to be fluctuating in degree in direct proportion to the variable states of confusion displayed by the patient. A diagnosis of a brain tumor was made. Because of mixed features, primary localization could not be differentiated between the frontal lobe and the pituitary. A short while after admission to the hospital, the patient had to be confined to bed as she became more unsteady on her feet. During her residence here, she displayed variable states. At times, she would become dull, stuporous and inactive. When addressed, she would stare into space without replying, while, at other times, she appeared fairly clear and would converse in a pleasant, relevant manner. However, her sensorium was impaired to some extent at all times. On one occasion, she showed a tendency to fabricate. During her earlier residence, she commented on her inability to control her bladder and bowels, but later became indifferent to this matter. One day she suddenly went into



a deep stupor, became cyanotic, breathing became labored, she failed rapidly and died within 15 minutes.

Post-mortem findings of the brain were described as follows:

"The brain shows flattening of the convolutions over both hemispheres, particularly in the frontal region. There was a large reddish soft tumor arising from the sella turcica and pressing upward the orbital surface of the frontal lobes, particularly on the right side. There is also evidence of pressure against the optic chiasm, more pronounced on the right side. The tumor was freely shelled out of the brain. The sella turcica itself was deep and showed much bony erosion. Microscopical diagnosis—craniopharyngeoma." This case presents the following features of interest:

1. The onset was definitely antedated by a psychological shock.
2. In the beginning, the manifest symptoms were entirely of a psychic nature.
3. Headache, a fairly common symptom of brain tumor, especially of the pituitary involvement, was remarkable by its absence throughout the entire course of illness.
4. Finally, the case is of interest because it did not display any of the three traditionally-called, "pathognomonic symptoms of brain tumor," that is, headaches, vomiting or choked discs.

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## THE VALUE AND APPLICATION OF HYDROTHERAPY IN A MENTAL HOSPITAL

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Hydrotherapy began with the first bath taken by man. Homer sings of bathing, and cites the case of a cure by water of the wounded Hector. The Nile and the Ganges were worshipped for their healing properties. Greek temples were dedicated and thronged with the sick. Hippocrates extolled its virtues. The Roman baths need only to be mentioned. Throughout the world have sprung up spas and watering places noted for their healing properties.

From a psychiatric point of view certain beneficial effects may be expected from hydrotherapy. The type of hydrotherapy is determined by the need of the patient. The sedative type is required in cases of excitement, the tonic and stimulating types in cases of depression and the eliminative type in cases showing toxicity. Any particular patient may show a combination of symptoms which will require a modification of any type of treatment. It must be borne in mind that improvement in physical health at times leads to improvement in a mental state, hence any agent that helps to accomplish this purpose must surely be considered as a therapeutic agent—and certainly hydrotherapy increases the sense of well-being of the individual.

In cases requiring tonic and eliminative treatment, the direct form of hydrotherapy plus ultra-violet is used as follows: The patient is placed in the electric light cabinet at a temperature of 140° to 160° F. and a towel wrung out in ice water is placed around the head. He is allowed to remain in the cabinet until a slight amount of perspiration forms on the body. The patient is then put in the shower and the needle spray is employed for a period of from two to three minutes at 98° F. On removal from the shower Scotch douches or jets are used on the anterior, posterior and lateral sides of the body. The pressure is from 35 to 45 pounds. Over the anterior and lateral surfaces of the body the fan douche is used, over the posterior the straight jet. One jet remains at 98° F. and the opposite jet at 94° F. These temperatures are gradually re-

duced at each daily treatment until a skin reaction is secured. The patient is then dried with heavy towels and is sent to the physical therapy room where a course of general ultra-violet is given over a period of time. Starting at two minutes, the time is increased one minute daily until the point of 10 minutes is reached. During this treatment both anterior and posterior surfaces of the body are treated.

For cases requiring simply tonic and stimulative treatment the electric cabinet is not required; instead a shower needle spray is used from 96° to 94° F. and a fan douche over the anterior, posterior and lateral surfaces, with a reduction in the temperature of the jets from 96° to 40° F. The usual course of general ultra-violet follows this. In certain cases massage is also indicated.

The treatment of alcoholism during the acute stage is eliminative. Following this, however, it is largely tonic and stimulative. The electric cabinet and Scotch douche are used as formerly indicated. After receiving a brisk rubbing the patient is removed to the ward where he is placed in a dry blanket pack for two to three hours. When removed from the pack he receives a shower at 98° F. He is then rubbed with alcohol, powdered and placed in bed. Frequently following a course of treatment the patient will feel sufficiently relieved to sleep for some hours.

The hydrotherapy department at the Marey State Hospital was opened in October, 1933, and has been used for the purpose of tonic and eliminative treatment. During the first two months only a few treatments were given—62 and 38, respectively. Following this, however, a rapid increase was shown so that the peak was reached in July, 1934, when 993 treatments were given. Other months average from 405 to 929. A certain base is carried over yet; as this type of treatment is particularly valuable to early and acute cases, the admission rate and type of admissions are bound to produce a considerable fluctuation.

Alcoholics and other cases requiring eliminative therapy should have treatment every day until toxic effects are overcome. Following this two to three treatments a week are all that are required. Cases where general tonic and stimulative measures are required do well on an average of three treatments a week.

The length of treatment must be determined in each individual case and carried on until it is felt that the maximum benefit has been gained. Certain cases will be found who actively object to treatment and here the individual factors must be carefully considered. They are usually cases of depression, and if a gain is not shown during the first few treatments, or the objections of the patient overcome, continuance of treatment is as a rule not indicated. The average length of treatment in this department is two months.

Chart I gives in detail the number of cases treated, the treatments given, the new cases treated and the cases carried forward each month, also the total number of cases treated and the treatments given each month, to March 1, 1935.

CHART I

	Oct., 1933	Nov., 1933	Dec., 1933	Jan., 1934	Feb., 1934	Mar., 1934	April, 1934	May, 1934	June, 1934
Treatments by months									
No. of cases treated ....	5	3	23	41	41	35	38	37	71
No. of treatments .....	62	38	265	488	488	422	459	443	863
New cases .....	5	1	10	20	19	16	18	17	32
Cases carried forward ...	..	2	13	21	22	19	20	20	39

	July, 1934	Aug., 1934	Sept., 1934	Oct., 1934	Nov., 1934	Dec., 1934	Jan., 1935	Feb., 1935	Total Oct., 1933 to Feb., 1935
Treatments by months									
No. of cases treated	82	64	34	50	77	44	79	70	794
No. of treatments...	993	774	405	621	929	529	959	840	9,578
New cases .....	38	30	15	22	36	20	38	32	369
Cases carried forward	44	34	19	28	41	22	41	38	423

## Results of treatment:

	Per cent
Received maximum benefit .....	80
Received some benefit .....	13
Received no benefit .....	7

Excited cases require sedative forms of hydrotherapy. From our experience the continuous bath works best in cases of prolonged excitement and the wet pack best in acute excitements of short duration. The routine form of treatment requires that the patient spend, on the average, about eight hours daily in the continuous bath. A single application of a wet pack is for a period of four hours. For cases requiring a more prolonged treatment a three-hour wet pack is given with a free interval of one hour. This procedure repeated, seems to give the best results.

With the use of hydrotherapy in our excited cases we require very little in the way of other sedative and rarely is restraint or seclusion necessary.

A second continuous bath tub was placed on the ward for continued treatment of disturbed women in June, 1933, and both tubs have been in daily use since. (Prior to that time the continuous bath on this service was used only in exceptional cases.) Wet packs are also employed on this service. I have for illustrative purposes in this section taken the year 1934. During December of this year the tubs were out of order so that only 11 months are reported. During this period 596 tub treatments were given to 25 patients, the maximum number of treatments given to an individual patient being 105.

The results of the continuous bath treatments were as follows:

Much improved .....	3
Improved .....	2
Unimproved .....	1

Owing to the fact that there were only two tubs for the treatment of excitements on the women's service, certain cases had to be treated by wet packs as well as in the continuous bath. Nineteen (19) were treated in this manner. Eight (8) of these benefited more by the continuous bath than by the wet pack treatment. They were:

Much improved .....	3
Improved .....	5
Unimproved .....	0

Eleven (11) benefited more by the pack treatment than by the continuous bath, as follows:

Much improved .....	1
Improved .....	6
Unimproved .....	4

During the year 1934, 2,255 pack treatments were given to 56 patients. The maximum number given to an individual patient was 172.

The results of wet pack treatments were:

Much improved .....	5
Improved .....	33
Unimproved .....	18



There does not seem to be the same indication for sedative hydrotherapy in the male as in the female group. There is only one continuous bath tub on this service. This is employed simply for emergency treatment. The same indications hold true in regard to the wet pack as stated in regard to the use of the continuous bath.

A few cases are cited to illustrate points in the various types of hydrotherapy.

CASE No. 1. R. H. Admitted May 23, 1934. Age 39. Married. Diagnosis: alcoholic psychosis; anxiety and depression.

Father was excessively alcoholic. One uncle is said to have drunk himself to death. Birth and early development normal. Always a good mixer, systematic and efficient, active in community affairs. Married in 1915. There is no history of his drinking to excess until following his discharge from the army in 1919. Since that time has been progressively becoming more alcoholic.

Physical examination on admission showed some bronchitis and the effects of his alcoholism. Coordination tests slowly and clumsily performed. Some swaying in Romberg. Poor balancing. Tremor of facial muscles, tongue and fingers. Knee jerks increased. All laboratory tests negative. Owing to toxic condition he was started at once on intensive eliminative treatment by means of the electric cabinet, Scotch douche and dry pack. Following this, regular tonic hydrotherapy was given. After two to three days of this treatment active physical and mental signs had disappeared.

Patient stated himself that had he not received treatment when he did, he would have developed delirium tremens. Treatment was continued for a period of six weeks. Interviews did not indicate the activating factor in his drinking but he frequently referred to the hereditary taint. The following is the patient's own evaluation of his condition and the effects of treatment: "A person through the excessive use of alcoholic, enters into a state of feeling whereby he thinks he is doing right, thinking right, and acting right. I know it is not so. A person's mind tells him to do a thing and another mind will tell him to wait until some time later, I mean by this that the mind does not function with the will to do.

Hydrotherapy as applied to these cases positively does quiet the nerve centers and gives the mind or brain a chance to do its duty. The first treatment of hydrotherapy perhaps does not make any definite change in the person, but after the third or fourth treatment, one can feel and see the change the system is going through. Nerves begin to quiet down, appetite improves, conversation with someone else takes on a different tone and ability to think and act becomes better. I believe a patient should cooperate with the operating attendant and take the treatments as regularly as possible."

CASE No. 2. T.W. Admitted December 13, 1934. Age 24. Single. Diagnosis: alcoholic psychosis; mixed type.

Father excessively alcoholic. One brother excessively alcoholic. Began to drink eight years ago at the age of 16, increasing his alcoholic intake constantly so that prior to admission he was drinking throughout the entire day and could not work. He was disagreeable and abusive.

Birth and early development normal. Said to have been always affectionate and demonstrative. Since drinking has become irritable, careless and selfish. No cause for his alcoholic habit was ascertained.

Physical examination on admission: Well developed and nourished young adult male. Physical examination revealed nothing of importance except a skin rash (psoriasis).

December 20, 1934: Ophthalmologist noted pallor in both optic discs which was confirmed on re-examination on December 27 and January 7, 1935.

Neurological examination done January 8, 1935, showed weakness of the extensors of both wrists without actual wrist drop, bilateral optic atrophy, glove and stocking hypalgesia and hypasthesia. Although on this date weakness in anterior peroneal groups was not noted, on the following day when he tried to walk on his toes, this became quite apparent.

On admission he was started on intensive eliminative hydrotherapy, which was followed by the tonic form of treatment. On January 10, 1935, yeast and tomato juice, t. i. d., were added to his diet.

The patient has been improving constantly except for his eyes, the right disc shows pallor even more marked than previously on temporal half of disc. His wrists are definitely stronger and he can walk on his toes and heels without difficulty. No sensory changes at this time are noted.

The patient states that he feels his improvement is due to "hydro" and "P. T." He can attribute it to nothing else.

While in this case treatment has shown particular benefit for his neuritis, yet from a personality standpoint he is now pleasant, agreeable and cooperative and shows no indication of abusiveness or irritability.

CASE No. 3. C. B. Admitted January 15, 1935. Age 51. Married. Diagnosis: psychoneurosis; hypochondriasis.

Family history revealed nothing abnormal. As far as known, birth and early development were normal. He has been an active business man, systematic and practical. He was a good mixer and made friends easily. Inclined at times to be worrisome.

He has had mild gastric complaints for at least 15 years and has been depressed since the death of his father one year ago. Came into the hospital on a stretcher, refused to get out of bed because he was too weak. Had various somatic delusions but showed essentially negative physical and laboratory status.

Tonic and stimulative hydrotherapy and physical therapy were started on admission. He is extremely enthusiastic about this treatment and feels that hydrotherapy and physical therapy "did the trick."

His verbatim statement follows: "Hydro had quite a lot to do with it. It made me feel better after each time, got me from being down-hearted. Then having to take things as they came helped. In a great many ways I feel best I ever felt. I feel I want to do something."

CASE No. 4. F. C. Admitted November 2, 1932. Age 25. Married. Diagnosis: manic depressive; manic type.

One brother insane. Instrumental birth, irritable as a baby. First attack precipitated by being jilted. Married in 1928. Got on well until, owing to financial reverses, had to live with husband's family. Slightly depressed at first then became typically manic.

Physical status: Young, white female, athletic type. Physical examination and all laboratory tests negative. Owing to her excitement had to be cared for on the disturbed ward. Continuous bath treatment eight hours daily was instituted from November 10, 1932 to February 4, 1933. She became quieter toward the end of this period, but was still flippant and sarcastic. On February 24 attempted suicide by tying a stocking around her neck. Did not appear depressed at the time, as, when she was asked immediately following the incident why she did it, she said in a flippant manner, "I am sick of looking at you." There was, however, a considerable loss of interest at this time. She was irritable and sarcastic, but continued to slowly and consistently improve. Paroled September 17, 1933, and discharged one year later as recovered.

Just before this patient's parole she was questioned as to her sensations while undergoing treatment in the continuous bath. She stated that at that time things appeared as if they were in a dream to her. However, she did recall feeling afraid of being placed in the bath because of the restraint, but that after being in the bath for a while, and following the treatment she felt better, was relaxed and was able to sleep better. States that even in spite of the fear of being put in the bath that she felt it would benefit her in the long run.

CASE No. 5. R. M. Admitted October 6, 1930, to St. Lawrence State Hospital. Transferred to Marcy State Hospital, September 14, 1933. Age 23. Married. Diagnosis: epileptic psychosis; clouded state.

There is nothing of note in the patient's family.

Birth and early development were normal. She was married at the age of 18. A year later she gave birth to a premature child weighing 3 lbs. 10 oz. The financial circumstances were poor.

At the age of 15 she began having convulsions following a head injury received while employed. Convulsions at first occurred one to two times a month. Following her marriage the convulsions became more frequent and began to effect her mental condition. During her pregnancy convulsions occurred three to four times a week. Following the birth of the child she had two to three convulsions a night. She became quite irritable and unmanageable and

was admitted to the hospital in a clouded state. She improved rapidly and was paroled a month later. She adjusted at home for two months when she had a therapeutic abortion following which she had a series of convulsions and was returned to the hospital in a clouded state. She improved and was again paroled after a month's stay in hospital. She was unable to adjust and was again returned. Following this her condition became more severe and she had frequent periods when she was irrational and would bite, kick, scream, assault and resist all attention. At times she threatened to injure herself and on several occasions tried to choke herself.

Following her transfer to Marcy she continued to have many of these disturbed episodes and would remain in a state of furor for a number of days. During her first three months here she was placed in a side room where she continued in a furor for several days and destroyed everything she could lay her hands on except one blanket. Whenever it was necessary for a nurse to give her food or attention she attacked the nurse so that three or four employees were necessary to manage her. During this time she was having 4 to 12 convulsions a month.

During the interval between episodes she took little interest in her surroundings and was irritable and sarcastic.

For the past year she has been treated by wet packs during her excited episodes. While in the pack she is quite noisy and uses abusive language, but becomes more quiet before the treatment is over. When she is removed from the pack she is usually fairly agreeable and assists with ward work.

During the intervals between the disturbed periods she is very cooperative and agreeable, occupies herself with ward work and occupational therapy work. Her attitude toward the hospital has shown marked improvement and she is making a much better adjustment on the ward. She is more easily cared for, does not assault as frequently and no longer destroys clothing or linen. She continues to have 4 to 10 seizures a month and 2 to 4 epileptic equivalents a month.

During her stay at Marcy she has received luminal grs. 11½ daily. She did not, however, show improvement prior to her wet



pack treatment. I, therefore, feel that her improvement cannot be based on the use of this drug.

In this report no mention has been made of purely physical and neurological conditions which respond well to hydrotherapeutic measures. In the hydrotherapy department we have whirlpool bathes and sitz baths. These are used where indicated and have not only given considerable relief but the results have been very encouraging.

In tonic and eliminative treatment we have greater difficulty in evaluation of results than in the sedative types, mainly for the reason that in the former, treatment was instituted on admission. In the latter, over 90 per cent had been in the hospital for several months to years.

While no controls were attempted in any of the groups under consideration, from our observations we feel perfectly safe, however, in making the statement that in toxic states, elimination was hastened and the period of illness cut short by the use of hydrotherapy.

In many cases of depression, the length and depth of the depression would appear to have been favorably influenced as contrasted with similar cases that came under our observation prior to the use of hydrotherapy.

In types requiring sedative treatment, pharmacotherapy by the administration of sodium barbital and sodium bromide had been given a fair trial. Occupation and occupational therapy had been urged. Habit training had been instituted. Mental analysis, on a limited scale, was carried out, but with none of these measures was there evidenced the degree of improvement that followed the use of hydrotherapy in this group.

The fact alone that many cases complained that their treatment was not continued for a sufficient period of time and asked to have it again instituted would appear to be quite an accurate guide as to whether or not they found it beneficial.

Hydrotherapy cannot be considered as a curative measure, but has its place in the treatment of mental disorders, so also has physical therapy. So many factors enter into the treatment of a case that results are always difficult to evaluate. When, however, a large



group of patients voluntarily attribute benefit to any form of treatment we must give credence to their observations, particularly when they are in accord with our own.

### CONCLUSIONS

1. Tonic and stimulative hydrotherapy by means of the needle shower and Scotch douche, followed by ultra-violet treatment render the best result in psychoneuroses and depressions.

2. Eliminative hydrotherapy by means of the electric cabinet, needle shower, Scotch douche and dry pack are best suited to toxic states. Their principal value is in the treatment of alcoholics, with the relief of the toxemia; tonic hydrotherapy is indicated.

3. Acute cases require daily treatment, following this stage, however, treatment twice to three times a week is usually all that is required.

4. Length of treatment has to be determined by the needs of the individual patient, but those receiving eliminative, tonic and stimulative types usually show a maximum of benefit after two months.

5. Sedative hydrotherapy in the form of the continuous bath is indicated for prolonged cases of excitement.

6. Sedative hydrotherapy in the form of the wet pack is best suited for acute excitements of short duration.

7. No time limit can be estimated for the treatment of acute excitements by means of the continuous bath and wet pack. This must be determined by the condition of the patient and his reaction to treatment.

8. Hydrotherapy is a safe and rational form of treatment.

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# TREATMENT OF BEHAVIOR DISORDERS IN CHILDREN

## *A Review of the Literature*

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### I. HISTORY

Various attempts have been made from the early days of English and American history to save offending children from the rigidity of the common law, but such attempts were only sporadic, and in many instances accomplished very little.<sup>1</sup>

Stuart Garnett<sup>2</sup> tells us that as early as the tenth century, the Saxon King, Athelstane, not only attempted the reformation of juvenile offenders, but enacted a certain law which embodied some of the seeds of modern juvenile court legislation, and especially of probation. All through the Middle Ages, true to the general tendency in the criminal law of the time, offending children were treated with great severity which reached its climax in the seventeenth and eighteenth centuries. Many were hanged, sometimes for very trivial offenses, and as recently as a hundred years ago a death sentence was pronounced, but fortunately not carried out, upon a child of nine, who broke a window and stole two pennyworth of paint.

Bailey<sup>3</sup> has given us an outline of the evolution of legal institutions as they relate to the child down to the beginning of the present century.

From 1642 until 1750 the old Mosaic laws of the Bible were followed (Exod. 21:15 and 17; Levit. 20:9; Deut. 21:18-21). In addition children were equally liable with adults for rape, bestiality, sodomy, incest, blasphemy, perjury, arson, etc. These laws were not passed to meet possible exigencies, but the penalties were actually enforced.

By 1750 the rigors of these "Blue Laws" had somewhat abated. While the death penalty was still preserved against minors who committed felonies for which adults were also punishable by death, it had been abolished against stubborn, disobedient and rebellious children. Penalties for other crimes were also mitigated.

In 1816 the stocks, pillory, and branding iron were relegated to the museums for penological atrocities, and punishment by fine and imprisonment was substituted. The unwholesome condition of those already imprisoned was also ameliorated when the provision of fuel and bedding became mandatory.

The new era in the treatment of juvenile offenders in Connecticut was inaugurated by the State Reform School Act of 1851. Until 1901 any boy under 16 years of age who could distinguish right from wrong was subject to commitment to this reform school for offenses other than those punishable by life imprisonment. It was then provided that no boy under 10 years of age should thereafter be committed to the Connecticut School for Boys except upon conviction of an offense for which the punishment was imprisonment in the state prison.

In 1902 the rule was made absolute that no boy under 16 should be committed to any jail, almshouse, workhouse, or state prison, except for an offense penalized by life imprisonment.

The history of modern treatment of juvenile offenders had its rise during the period of the industrial revolution and of the religious and moral revival at the beginning of the nineteenth century, and towards the end of the first half of that century the first juvenile reformatories were established.

The first American reformatory for juveniles was opened on Randall's Island in 1825, and was followed soon after by one in Boston. The juvenile offenders were divided into two classes, "good" and "bad." The "good" class enjoyed privileges which the "bad" were denied. The latter were subjected to privations which the former did not have to undergo. Eight hours every day were spent in the workshops, where the children were occupied with useful arts, such as shoemaking, joiner's work, clothmaking, carpenter's work, etc. Four hours were spent daily in the school. After rising and before going to bed, prayers were offered. Three meals took half an hour each; in short, about 15 hours of the day were spent in study and labor, and nine hours in rest.<sup>4</sup>

While a step forward had been made in segregating juveniles from adults, children were still treated as adults before the courts with all the formality of criminal law. Soon it was recognized

that child delinquents should be treated as children needing protection and guidance, and a probation system was instituted. Some courts now held separate hearings for children, and ultimately, in 1899, the first juvenile court was established in Chicago. This viewed the child offender as a ward of the state, not as a criminal; he now received practically the same care accorded the neglected and dependent child. The legal attitude veered from the moralistic, punitive emphasis to consideration for the child's welfare.<sup>1</sup>

For a long time the need for psychiatric study of delinquents was felt and in 1909, what is now the Institute for Juvenile Research was organized by Dr. Healy. A large and valuable store of case material accumulated which Dr. Healy freely drew upon when, in 1917, he published his epoch-making book, "The Individual Delinquent", and some additional papers. These profoundly influenced scientific thinking everywhere, and also had far-reaching effects upon education, social work, and judicial procedure, especially as it related to juvenile courts.

Dr. Healy's success resulted in the establishment of similar institutions in various parts of the country, and where such facilities were not available, juvenile courts made increasing use of the services rendered by psychiatrists.

In 1921 another step forward was taken when the Commonwealth Fund of New York published its program for the prevention of delinquency. It made a special gift to the National Committee for Mental Hygiene, which created a new department, known as the division on the prevention of delinquency. One activity of this department was to furnish psychiatric service, as well as serve the juvenile courts and other agencies in certain communities. The contributions by medicine, sociology, education, and other social agencies were utilized to further individual study and treatment of the juvenile offender.

It was not long before the clinics were extended to serve the whole community. These dealt with cases from the courts, schools, homes and social agencies, thus giving a more general type of clinical service to children. It became recognized that an effort should be made to redirect the energies of maladjusted children before they become community problems.<sup>5</sup>

What is a child guidance clinic? Stevenson obligingly provides us with a comprehensive description of one.<sup>6</sup> "The term 'child guidance clinic' is customarily applied to a clinic embracing the combined techniques of psychiatrist, psychologist, and psychiatric social worker, and designed to treat deviations in the total functioning of the individual child, as evidenced by disorders of personality and behavior. These disorders are serious not only because of the immediate disturbance they create, but also, because they often represent early stages of mental disease, delinquency, and social dependency. Because of the distinctive character of its work and the detail of its method, the child guidance clinic has built up a service which has given its name a certain prestige. This has sometimes led to the application of the term 'child guidance clinic' to agencies which do not have the aims, cooperative techniques, and comprehensive service of the child guidance clinics, such as clinics dealing with the feeble-minded, psychiatric clinics doing work of the ordinary dispensary level, and clinics that are not primarily psychiatric. To call such a clinic or agency a 'child guidance clinic' is misleading to the community and is unfair to those clinics which are maintaining a high grade of work in a specific field. It is hoped, therefore, that the name 'child guidance clinic' will be used only when it can be applied appropriately."

In order that treatment procedures be more fully understood, some description of the workings of a child guidance clinic and the approach of its personnel follows.

## II. METHODOLOGY

Levy,<sup>7</sup> in a concise and excellent chapter, states the aim and traces the development of the child guidance approach. He declares the aim to be a study of the total behavior of the child, its development, and its relation to a many-sided background. Personality studies are attempts to learn how the child under investigation differs from other children, and the reasons for these differences. The behavior is always studied in the light of its setting, differentiating such an approach from the judicial one.

He traces the development of interest in the individual from



Pinel through Griesinger and Kraepelin to the dawn of psychoanalysis, when the static approach was replaced by a dynamic one. Psychoanalysis soon discovered the effects of early developmental influences upon late behavior and personality. Psychiatry henceforth became highly concerned with the individual.

Concurrently, advances in psychology dovetailed into the interest of psychiatry in individual variations. Methods were devised by which intelligence, individual aptitudes and capabilities could be measured, especially in the educational and vocational fields. The latest contribution is the information derived from observations in that human laboratory, the nursery school.

In general medicine, the endocrinologist has endeavored to show the effects of glandular influences upon emotional and mental development. The more enthusiastic see a time when behavior problems will be corrected by the administration of the appropriate glandular prescription. The pediatrician's interest in children's physical development has forced him to concern himself with the effects, upon health, of such non-physical factors as emotional tension, parental attitudes, routine, etc. These many developments emphasized the necessity for a closer study of the culture medium in which the personality develops—the environment. As a result there arose within the ranks of social workers, psychiatric social workers, who evolved their own approach. This includes the study of the community, of the child's familial, social and cultural background, and of his developmental history and training. Subsequently the worker makes arrangements for changing or altering the environment where such a policy is indicated.

This four-fold approach to the study of personality—mental, intellectual, physical and social—has developed a methodology which is essentially the method of physical science, applied, with limitations, to social science. This approach sees behavior as the resultant of many varying forces, rather than as determined by any single and ever-present cause.

Hartwell,<sup>8</sup> in outlining the psychiatrist's approach, stated that he should have a deeper understanding of the responses and action of the child's mind; should be able to give a more accurate interpretation of them; should have a more skillful technique for ob-



taining a knowledge of these actions, and an ability to alter them towards more normal and healthy traits. The psychiatrist has to make an important and serious decision as to whether or not an attempt is to be made to establish deep psychic rapport with the child, and whether or not the child is to be subjected to the profound experience of deep mental exploration. Hartwell emphasizes that one's own plan or method is more likely to succeed than some other and gives a few suggestions for conducting the interview.

In the first place he advises that the psychiatrist make sure that the child understands who he is. This idea is stressed by most writers; that is, to be sure to avoid giving the impression that one is connected with disciplinary authority. The physical examination should be done by the psychiatrist, but preferably after a friendly acquaintance has been reached. During the interview the child should be physically comfortable, he should know where the toilet is, must know that he will not be punished or criticized at home because of the interview. He advises that an attempt be made to have the child sit still and look at the psychiatrist in an unobtrusive way. This may be changed by going to a ball game, for a ride or a walk; try to convey to the child without scolding, what the psychiatrist thinks is the proper behavior in his presence and elsewhere. Knowing the child's first emotional attitude towards the psychiatrist is very important. If the child has the feeling of ridicule, dislike, contempt, or fear of the psychiatrist, even knowing just what to say to the child will fail to help and the child may take the same attitude towards the things said. If neither a positive rapport or a neutral emotional attitude towards the psychiatrist can be obtained, it is unwise to give advice. Always take the interview seriously but smile frequently; don't let the child feel unimportant or in the way, especially at the first interview. It is unwise to allow interruption or distraction; slang is not discouraged, and the use of vulgar and common explanation in discussing sexual matters is nearly always necessary and wise. The most important single thing in obtaining a psychiatric rapport with the child is to establish the belief and feeling that the psychiatrist understands him. The child's confidence should be respected;

violating it does no good to either the child or society, as the child is uncooperative. In such cases society gains a suspicious, anti-social member, and the psychiatrist loses the chance of helping the child. The child's questions should always be answered truthfully and he should never be ridiculed or shamed. An interest in the child's activities, and a knowledge of the things in which he is interested, is a useful and important way of establishing one's self in the child's mental environment. Hartwell concludes that the essentials of psychotherapy are: a knowledge of the principles of mental hygiene, an understanding of the dynamisms of all of life's adjustments, evaluation of the child's environment and experiences, and knowledge of how best to interpret those things for our young patient. But that intangible, yet definite contact or response between two persons—rapport, is, after all, the thing and the only thing that makes our therapy useful.

In an outline "The Psychiatric Examination of the Child,"<sup>10</sup> prepared by the division on the prevention of delinquency of the National Committee for Mental Hygiene, it is stated that the chief purpose of the psychiatric study is to obtain as intimate an understanding as possible of the child's own thoughts and feelings about himself, and the various situations with which he is confronted. The aim should be to grasp his point of view, to understand his attitude. The clues for discussion should be obtained from the history, and the problems entered into in a friendly and sympathetic manner without any indication of reproof. Embarrassment or reticence concerning any subject should be met by a matter-of-fact tone and manner on the part of the examiner.

Potter<sup>10</sup> insists on always seeing the child before interviewing the parents. This shows the child that something has not been put over on him. If the mother insists on being present, allow her to be present at first but later arrange for her to see the social worker. He adds, the psychiatrist must avoid the critical attitude and must be helpful and sympathetic. He should avoid direct questioning, as many children come with senses of insecurity and guilt. It is usually wise to give the child to understand that there is going to be a child-doctor relationship. If this is not done, the doctor will be unconsciously identified with the hated parent.

Patry<sup>11</sup> stresses the necessity for minimal, essential questions and the elaboration of the data therefrom by the examining physician according to his best judgment. This deviates somewhat from the opinion of others, who feel that the child should reveal most of the conflict with very little help from the psychiatrist.

Lowrey<sup>12</sup> reveals that abroad a "stage show" is often used. The child is brought before the doctor in front of an audience—one or both parents, other relatives, visiting physicians or medical students. The behavior is gone over in detail, or maybe he is given an explanation and lecture. In other cases, groups with similar problems are brought together to work out the solutions in competition. He criticizes these methods in that they do not allow for certain facts such as shame, which, from experience, must be avoided for best results. In his opinion the psychiatrist becomes the kind of ideal or repository of ideals which the child hopes to reach.

David Levy<sup>13</sup> has what he calls the psychiatric-physical approach. The child is completely disrobed and then started into a game, in which he and the doctor discuss anatomical features of the child's body and his reaction to them.

Among the psychologists, Beverly<sup>14</sup> thinks that the psychological examination is an important if not an essential part of every mental examination. By the use of psychologic methods, the psychologist is able to contribute information about the child which cannot be obtained in any other way. He feels that the psychologist is able to contribute the following general information:

- (a) The native ability of intelligence in terms of test performance and expressed in mental age.
- (b) The intelligence quotient, which is an accurate index of the rate of development and of the limits of development of intelligence.
- (c) Any special abilities or defects.
- (d) Within limits, the educational ability and status.
- (e) The individual characteristics of responses.
- (f) Abnormal responses which may serve as clues for further study by the sociologists, pediatricists, educationalists or neuropsychiatrists.

Tulehin<sup>8</sup> feels that the work of the psychiatrists, psychologists

and psychiatric social workers necessarily overlap, and that each should have an understanding of the others' problems and technique as well as his own. He emphasizes the value of individual study, suggesting that all available information should be used in order to interpret the test findings. An analysis of the test gives leads and enables one to discover how well the individual functions within the limits of his abilities. He thinks that the psychologist's rich field is that of school problems, and, if it happens to be the main problem, the psychologist might carry most of the treatment.

Towle,<sup>8</sup> in discussing the field of the social worker, states that treatment starts with the first contact, and if the social worker makes a meaningful social examination, she has dynamic relationship with the family from the start; that the function of the social organization is to give guidance to the individuals concerned and that the worker-patient relationship is analogous to the parent-child relationship, but should not foster undue dependence, as the patient must, as soon as he can, function unaided.

While the psychiatrist plays the major rôle with the patient, the social worker supplements his treatment and also works with the family. If a deeper level of treatment is needed for the relatives, the psychiatrist will treat them also. Emphasis is placed on the need for the careful study of treatment responses before coming to any definite conclusion.

Potter<sup>15</sup> comments that the social worker's duties used to be largely confined to the taking of histories and follow-up work, but because of the many relationships between mental attitudes and social behavior, the social worker has come into her own. He explains that a psychiatric social worker is a social case worker who has had systematic training in the factors underlying behavior. Her functions are: A. Psychiatric social case work. B. Educational. C. Supervising training. D. Administrative. E. Research.

Levy<sup>16</sup> points out that the social worker obtains a valuable objective history by actually contacting the environment in which the behavior has developed, provides the machinery for fulfilling the clinic's therapeutic prescriptions as they relate to environmental modifications, and acts as intermediary between clinic and community.

## III. OUTLINE OF TREATMENT

A. *Environmental Approach*

Healy<sup>17</sup> shows that only 7.6 per cent of 2,000 offenders were found to be living under reasonably good home conditions. Unfortunate features of home life which he found among cases included poverty, unsanitary surroundings, parental neglect, parental discord, alcoholism, immorality and criminalism. "It is clear, therefore, that a large measure of responsibility for delinquency is environmental."

Levy<sup>18</sup> divides his environmental problems into three classes:

- a. Those that relate to the community, where the psychiatrist may be interested in a change of neighborhood or recreational or vocational changes. The treatment tends to take something away or place something not previously there.

Change of neighborhood is used under three conditions:<sup>19, 20</sup>

1. Where there is a severe cultural conflict, e. g., a white boy in a colored section.
2. Where neighborhood cultural patterns are strongly entrenched, e. g., gang of boys robbing trucks.
3. Where a restless child is over-stimulated by the tempo of social life in his neighborhood.

Recreational therapy is recommended as a means of self-expression. Through art classes, dramatic clubs, etc., a child is given a chance to express itself. A child may have a talent which it cannot utilize but can gain an outlet through something similar. Recreational therapy is often used as a means of discipline, such as, scout work for an egocentric boy, with its emphasis on the morale of the group; it creates discipline under pleasant conditions, and it may be used to give a timid child courage, through boxing and wrestling. This type of therapy takes in the kind of play life needed, the kind of toys, choice of friends and group activities.

Vocational therapy is limited to certain age groups. It is useful in older boys, who, due to intellectual difficulty, are doing poor school work. Placing a boy in a vocational school removes him from an atmosphere of defeat to one of success. It perks up his personality and gives him fresh incentive. These cases often show



a remarkable change very quickly. Vocational therapy not only takes him out of an undesirable situation, but builds up his personality.

Burt<sup>21</sup> says as a rule, when the adverse factors in the child's environment lie not inside the home but without, treatment is a simpler and more successful matter. The treatment he advocates is similar to that laid down by Levy. Among his recommendations are, change of residence, juvenile clubs, transference from an uncongenial school and increased facilities for recreation outside the home.

Healy<sup>22</sup> emphasizes that it is extremely difficult to break up bad neighborhood companionships. It is almost impossible to have a child absolutely refuse to mingle with neighboring children. It is almost as futile to attempt the reformation of the crowd. Children, either singly or in groups need new interests to take the place of those out of which the delinquency has developed. He recommends change of residence, removal to relatives or child-placing agencies; change of schools or of teachers or of the curriculum to fit the child's special needs; new recreational interests; action by probation officers or juvenile court against the guardians of the child's wayward companions; and finally change of living conditions or habits where these bear a causal relationship to the behavior.

b. A second class of environmental problems is related to the home itself, where the psychiatrist may be interested in certain domestic changes: complete change of home, foster home, or removal to a hospital, institution or camp. Domestic changes include marriage, separation of parents, improvement of parents' attitude towards children, or improvement of the physical conditions within the home. Placement in the home of a substitute parent is a frequent measure to get someone with more stability to relieve parents of the impact of the child and vice versa. The success of this measure, of course, depends on the substitute. There is often a tendency to take sides with one of the parents and this is fatal.

One has sometimes to face the question of separation of the parents but the psychiatrist has to bear the burden of proof that this is necessary, as parents have lived together, and one must see



whether anything can be salvaged from the wreck without resorting to separation.

Sometimes it is expedient to have more children in the home, either through birth or adoption, especially in such cases where there is only one child with solicitous parents. Some parents feel that adopting a child is wrong, but, generally, once having accepted the adoption, they become quite enthusiastic. Many parents object to upsetting the equilibrium of the home and this is generally due to the fact that they are obtaining plenty of emotional satisfaction out of one child.

Foster homes are recommended where the home conditions are impossible: a drunken father, a step-mother who is harsh, delinquent siblings who are having a bad effect, etc. Finally, it may be necessary to transfer to a hospital, those children who cannot be understood in the environment.

Potter<sup>23</sup> recognizes three situations in which a brief period of study and treatment in a hospital are particularly desirable.

1. Where the underlying physical condition is suspected of being the basis for the behavior problem.

2. Children under the ages of five and six, whose mental reactions invalidate psychometric test results, in order to differentiate an inherent intellectual incapacity from an intelligence that is incapacitated by an emotional disorder which may be amenable to therapy.

3. A group who present a known organic defect but in whom it is essential to determine how much of the behavior difficulty is due to the organic defect and how much is secondary to over-solicitude on the part of the parents.

He defines four types of acute problems for which a children's service in hospitals offers important facilities for treatment.

1. A group whose conduct is so seriously disturbed that they cannot be cared for at home.

2. Those who have marked neurotic or psychotic reactions requiring more intensive and extensive psychotherapy than can be given in an out-patient department.

3. Where the home situation is so difficult that hospitalization relieves the tension of the entire situation by giving the child a va-

cation from his family and vice versa. In this way, both child and family can be treated more readily.

4. A small group for whom boarding home or foster home care is the obvious solution, but the children have certain behavior difficulties or neurotic symptoms which should be treated psychiatrically before boarding home placement can be successfully consummated.

Healy<sup>24</sup> states that problem children can be handled successfully in foster homes. Even in the light of subsequent failure intangible values accrue. It is often the child's first contact with family life where harmony, serenity, courtesy, goodwill, fair-play and affection exist. In such a home he may gain his first insight into order, cleanliness and good physical habits. In addition there is usually attention to educational interests and healthy recreational outlets which hitherto have been beyond the child's ken. The personal interest shown by a foster parent may be a revolutionary experience for the child. Foster home treatment is highly individualized and involves many factors including the type of home, proper number of children, and the child's special and individual needs.

Within the home Burt<sup>21</sup> lists the following conditions as causative factors in delinquency or misbehavior: poverty, defective family relationships, defective discipline, absence of facilities for recreation at home, parental alcoholism, and finally what he calls the vicious home—where the parents are criminals, or where they foster wrong-doing on the part of the children. His recommendations for the treatment of such causative factors are foster homes or improvement of the material and social conditions in the home.

Sayles<sup>25</sup> has many suggestions to offer with reference to the modification of parents' attitudes, to changing conditions within the home, and also to parents' education. The latter is advocated, also, in a volume issued by the White House Conference on Child Health and Protection.<sup>26</sup>

c. The third class of environmental problems concerns itself with the school. This will include recommendations for change of curriculum, grade, teacher, teacher's methods in handling the child, complete change of school, or placement of a young infant in

a nursery school. Recommendations for educational tests or special tutoring may be necessary.

Healy<sup>24</sup> says that bright, well-advanced children should have the opportunity to attend grade schools of high standards; backward and overgrown children do better in schools with less classroom pressure, or where they may have more attention, or are less conspicuous because of their size. He emphasizes the close relationship that should be maintained between the clinic and the teachers to whom children are entrusted in order to enlist sympathy for such children.

The value of the visiting teacher to children having personality or family problems which handicap their school adjustment, is pointed out by the committee of the socially handicapped and delinquent of the White House Conference on Child Health and Protection.<sup>26</sup> They study children presenting problems of scholarship, behavior, personality or home conditions, needing the application of the social case work method.

Sayles<sup>27</sup> after discussing many of the problems which a visiting teacher meets with, summarizes her work as follows: As a result of the new facts she discovers, the school is enabled to see what the actual situation is and to become aware of the real need of the child. It can often modify requirements to meet the newly-seen limitations by changing the class, transferring the child to a special school, shifting emphasis from one phase of school work to another, adopting a new approach to the child, or connecting his school work more closely with his outside interests.

Frequently the visiting teacher effects the desired result by changing the child's own attitude toward his problem, through explanation of his conduct and its consequences, through encouragement and supervision, or through the substitution of wholesome activities for harmful ones.

Many times, the adjustment of the difficulty lies in the home. A change of diet or in hours of sleeping may be desirable, or perhaps a shifting of hours for certain chores, a lightening of housework, a cessation of illegal occupations, the correction of conditions which make for immorality, a change in attitude toward the child or in methods of discipline, or an increased interest in his success or failure at school.

To remedy some situations, the visiting teacher may put the child or the family in touch with a social agency that will furnish relief or employment, a play-ground director or club leader who will furnish interesting substitutes for exciting dime novels or unwholesome movies, a convalescent home for an invalid parent, a day nursery to relieve an older child of the burden of caring for younger children while the mother is at work, a psychiatric or medical clinic, or a score or more agencies and opportunities of a special character, depending upon the local resources that can be mobilized in any particular case.

As a representative of the school, the visiting teacher is free from the suggestion of philanthropy and has a natural approach to the home, going as she does in the interests of the child. Through her acquaintance with families and the neighborhood she is frequently able to bring about social results of a far-reaching character. Her efforts have stimulated various communities to provide scholarship funds, nurseries, community houses, homes for neglected children, and other social activities. Hidden danger spots are not infrequently brought to her attention by parents who have not known what to do about them or who have been afraid to report to the proper agency or official. This often leads to such improvements as better policing and lighting of parks, better provision for playgrounds, closing of improper movies, or checking of traffic in drugs to minors, and the removal of similar insidious conditions. In addition to what she may do for the particular children referred to her, therefore, the visiting teacher's work may thus be helpful in a more general way to all the children in the school and neighborhood.

Woodrow<sup>28</sup> dealing with the problem of retardation, advances remedies similar to those already advocated. He also urges a special effort to uncover special abilities and interests so as to train all really valuable capacities in order that they may attain their greatest usefulness.

Brown and Potter<sup>29</sup> cover the ground of school problems and have many practical suggestions to make, including a system of grading so that certain children may pass more rapidly, or if continued in the regular grade to be given the chance of a fuller cur-

riculum. The causes of retardation should be studied, and as these often arise in the physical, mental or environmental spheres, these children may be brought up to grade, if proper measures are taken. Special classes for defective children are necessary both for the welfare of the child and the school. Special provisions for emotionally unstable children are also necessary and should include manual work and such provisions for recreation and rest as are indicated. Indeed, they state, the time must necessarily come in education when provisions are made for that large group who require special measures for their education. Such changes should do away with many school and social problems. Among other facilities, they advocate manual education in separate rooms, as well as oper-air, nutrition, sight conservation, speech training, and other classes. They believe that teachers should be trained in child guidance problems and that special personnel is indicated to meet certain needs of the children: the visiting teacher, the school nurse, the educational psychologist, the psychiatric social worker, and the psychiatrist.

Many psychiatrists make use of both summer and winter camps. They provide an excellent means of treatment from many standpoints and cut across many plans: environmental, home, school and recreational, as well as personal and physical.

#### *B. Personal Approach*

This consists of methods of approach employed by the psychiatrist in ferreting out the child's problem and the different attitudes and relationships adopted by him towards the child, in the course of treatment. It has been touched upon in the chapter on methodology, but perhaps can be enlarged upon at this point.

Levy<sup>18</sup> and Potter<sup>10</sup> deprecate the question and answer method but find that it is often necessary in children who tend to keep things to themselves.

Levy<sup>18</sup> stresses a neutral objectivity, and declares support or encouragement to be dangerous. As soon as a psychiatrist supports a child, he is taking sides. In cases of older children, where the child-parent relationship is settled, the psychiatrist can offer support for ideas which the adolescent has not authority to carry



out. In helping the child over a difficult barrier, he should beware of encouraging dependency, and cases should be carefully selected. Support, however, may be given through the authority of the psychiatrist, but, if depended upon, may make the psychiatrist huffy when his suggestions are not carried out. The ideal way is to have the situation as one of give and take. Psychiatrists should adopt the attitude, not of authority, but of one with more experience. In some cases, all that is needed is to be kind to the child and help him out. There should be no probing.

Antagonism, or shock therapy, he thinks, has only a limited application. It is used especially in cases where there is only one interview and resistance is manifest, also in cases where the child develops a strong negativistic phase, prolonging treatment. Bring the child up sharply with a clear statement of his problem.

Potter<sup>10</sup> encourages children who have the capacity for phantasy, to make up stories, which reveal their problems.

Many psychiatrists also have play material and observe the children while they are making use of it. In their games they often reveal the nature of their conflicts, indicating the direction in which therapy should be applied. Autobiography and drawing are other methods employed for the same purpose. These are motor expressions instead of verbal ones.

Orgel, Goldman and Blanchard<sup>30</sup> outline a personal touch to children, who are extremely narcissistic and whose problems could not be solved by ordinary methods. The therapy depends on accepting the child at a low emotional level, establishing an ideal for him, and then, through the ideal, stimulating him to a higher emotional level. They found that mentally retarded children are unsuitable for such treatment, being unable to follow the reasoning when various situations are analyzed with them.

Allen<sup>31</sup> and others, warn against identifying oneself in a subjective way with certain persons in the case. In identifying with the patient, one is apt to encounter the same reaction from the parents, that they have been directing against the child.

The same reaction is directed against the psychiatrist by the child, when the former is identified in his mind with the hated or over-solicitous parent. It is the capacity to remain objective with



all the individuals in the case, while still giving them the feeling that one is sympathetic and anxious to understand their point of view, which is one of the greatest tasks of the psychiatrist.

Many writers point out that infrequently it is necessary to treat the parents, rather than the child, and when that is accomplished the problem resolves itself.

Hartwell<sup>32</sup> describes a technique which he has found successful in many cases. He differentiates three processes: (1) Thinking about the child; (2) Thinking for the child, and (3) Thinking with the child. Then, he differentiates four stages of rapport induced by these differing processes and treatment. The first is a relatively superficial rapport of "friendly belief"; the second, a rapport of "personal trust"; and the third, he characterizes as "therapeutically the most important, known as 'personality contact'"; and then there is the fourth, "the last and deepest stage of rapport will be called the stage of dependent attachment." The author's explanation of these stages and his warnings in relation to them are illustrated and illuminated in the case material presented.

Hartwell<sup>33</sup> made a study of 25 withdrawal type of children. His treatment consisted in an attempt to establish a deep rapport with the child. He tried to break through the wall of reserve which the child had built up and which had become a vital, dynamic part of his environment. He says, that in establishing rapport, do not try to hurry the desired responses. Be willing to be in the child's presence even if there is not much conversation, but if possible, find something of common interest and think together about this. Talk but little, analyze what one knows about the child, and try to reproduce the child's emotions to understand in what way his ego has been frightened or hurt, and slowly, but surely, let the child know that you understand. In this way one will obtain some little confidence, usually out of a clear sky, never in response to questions, but rather a questioning of the psychiatrist. He urges that the psychiatrist establish some friendly, personal relations at once, such as taking the boy home in a car on the occasion of his first visit. Finally, a gradual, good rapport will be established and the child will finally desire private interviews.

Once this deep rapport of apparent therapeutic value has been established, it can be used to create the desire to be further understood, and to understand his friend (psychiatrist). The psychiatric treatment consists of interpreting the child's environment, through the personality of the psychiatrist, so that the child is willing to try it out with a somewhat altered emotional response towards his experiences. In more serious cases one might attempt to become the one vital person to the child so as to redirect the child's loyalties, beliefs and confidences. These unhappy children either have not learned, or have forced themselves to forget the vital fact, that most of genuine pleasure comes from various human relationships and the moods accompanying them.

The psychiatrist's function is to attempt to make this fact vital to them. The task is to interpret life and environment to the child, and interpret the child to other people. The social worker's help and understanding is necessary to learn of the environment of the child and make provisions for altering the same in some way, especially as the psychiatrist's place must be taken by some other understanding person. In this series of 25, Hartwell considered that his technique produced the following results: 8 were readjusted, 11 were considered improved and 6 showed no improvement.

Selling<sup>34</sup> states, that while an autobiography is not a method which can be substituted in any part of the study of psychiatric cases, it often reveals facts which are not forthcoming in a particular examination, and it can be considered a valid supplementary method to reveal social, psychological and psychiatric facts. The chief value in the autobiographies lies in the closeness of the connection between them and the psychiatric interview, and the method used in obtaining them varies in different types of clinics. Where there is plenty of time available, the child is given paper and pencil and urged to write. Much information is obtained about his emotional life and his attachment to relations, his desires, wishes, interests, and perhaps the starting point of the psychopathology.

Taft<sup>35</sup> in what is described as an experiment in a therapeutically limited relationship with a seven-year-old girl, discusses another type of approach. Sixteen visits were made by the patient in eight weeks. During this time no attempt to unearth or analyze uncon-

scious content or to give the child anything in the nature of Freudian interpretation was attempted. The relationship was taken simply and immediately for itself and developed according to what the child found in it and did to it of her own volition.

### C. *Physical Approach*

A thorough physical examination and a correction of all the pathology which such an examination reveals, is implied in every study of a behavior problem, but that the correction of a physical ill, will, in itself, dissolve the problem, is not the usual finding.

Timme<sup>36</sup> summarizes all the possible types of physical conditions likely to have a part in producing behavior problems, but warns that it is rare that the roots of a problem do not stray into the emotional, social and psychic fields as well. Physical conditions seldom cause behavior situations except in mental deficiency and a variation of emotional threshold, racial, congenital and endocrine.

He stresses the fact that physical conditions influence behavior by coloring the child's behavior. This fact must be taken into account and the social implications of an illness or defect must be properly evaluated in order to formulate a rational therapy.

Potter<sup>23</sup> in his experience, has found that sedation is one of the most important aspects of physical therapy. In this connection he has found the warm pack valuable in selected cases. He warns against its intermittent use, and specifies that it is of most value when carried out for a couple of hours a day over several weeks. He has also found diathermy to be useful for this purpose, but never uses sedative drugs. For anemia, heliotherapy is used extensively in conjunction with cod liver oil products.

Endocrine therapy is used when indicated, but he has not found any relation between the exhibition of endocrine therapy and improvement in behavior.

Like others, he recognizes the social implications of physical conditions and treats them as indicated.

Richards<sup>37</sup> stresses the importance of good physical health, pointing out that parent, teacher and doctor must strive to achieve a wise balance between adequate allowance for the physical limitation and making a fetish out of it.

Allen and Pearson<sup>38</sup> in an exhaustive survey of physical disabilities in children, conclude that the physical disabilities occurring in the early years of life affect the personality largely, as they are outlined by the underlying relationships between the parents and the child. When they occur later in childhood the child reacts to them in the same manner as he has learned to meet other new and difficult situations. They point out that it is as essential to treat the relationships between the child and his parents, and the attitude of the latter towards the disability at the time of its occurrence, in order that the personality may not be crippled, as it is to treat the disease itself. Such a crippling of the personality is probably a more serious menace to the future happiness of the individual, than a more marked physical disability.

Lurie<sup>39</sup> finds that 10 per cent of conduct disorders arise directly from endocrinopathic states and by treating such cases with endocrines produced remission of the conduct for which the child had been referred to the clinic.

He summarizes and concludes as follows:

1. The endocrine glands are the dominant factors in determining bodily structure.
2. Psychiatrists should bear in mind that the correlation between structure and function, long noted by physiologists, includes both physical and mental functioning.
3. Disturbances in glandular function may lead to abnormal conduct, either directly or indirectly: directly, as in cretinism, where the lack of thyroid secretion is responsible for the mental retardation; indirectly, as in those cases in which as a result of physical malformation such as midgets and giants, the individual develops abnormal mental attitudes and personality traits which make normal social adjustments very difficult if not entirely impossible.
4. The close relationship existing between endocrine disturbances and delinquencies, incorrigibility, sexual perversion, crime and other antisocial states has been demonstrated in a sufficient number of cases at the Psychopathic Institute of the Jewish Hospital (10 per cent in a series of 500 cases) to warrant the statement

that no study of a child who presents a behavior difficulty is complete without a thorough study of the glands of internal secretion.

Adler<sup>40</sup> says "With every type of deformity of this sort the physician must consider the two phases of the problem: first, what can be done to alleviate the immediate organic disorder, and second, what can be done to adjust the individual as a conscious being to the presence of the disability."

He illustrates his physical-sociological approach with four cases. One a case of malnutrition, another involving hereditary factors, a third an endocrine disturbance and finally a case of post-encephalitic disturbance.

#### D. *Psychoanalytic Approach*

While the doctrines and interpretations of psychoanalysis are widely used in the study and treatment of behavior problems of children, it is seldom that a straight analysis in the Freudian sense is employed. It is quite obvious for many reasons: An analysis requires an extended period of time. Some feel that it is only applicable to children beyond a certain age, but, perhaps the greatest difficulty in the path of an analysis in children is the repercussion which is bound to occur in the family of the child being analyzed. Many analysts feel that only children of analysts should be analyzed. However, there still remains a selective field for straight Freudian technique and also a modified technique. This is mostly employed in straight neuroses, and its value in such cases has been established beyond doubt.

Freud,<sup>41</sup> in his latest work, apologizes for his neglect of the field of child neuroses. He feels, perhaps, it is one of the most important of all analytic activities. He states that the child is a most favorable subject for analytic therapy, in spite of obvious external difficulties, such as the resistance of parents.

Raising the question of psychoanalysis as a prophylactic measure, he realizes its impossibility of attainment at present, owing to the opposition that would rise towards the idea, but he feels that all those who have a part in the education of children should have an understanding of analytic principles, or should be analyzed.



Psychoanalysis of children was initiated by Freud in the year 1909. He published his results under the title "Analysis of a Phobia in a Five-Year-Old Boy." This analysis was destined to be the foundation stone of subsequent child-analysis. For not only did it show the presence and the variation of the Oedipus complex in children and demonstrate the forms in which it operates in them, it showed also that these unconscious tendencies could safely and most profitably be brought into consciousness. Answering the question of apprehensive analysts as to what harm occurred as a result of bringing his complex into consciousness, Freud showed that the only results of the analysis were that the boy recovered, that he ceased to be afraid of horses, and that he got on to rather familiar terms with his father, as the latter reported with some amusement.<sup>42</sup>

H. Hug-Hellmuth,<sup>42</sup> who had the honorable distinction of having been the first to undertake the systematic analysis of children, approached her task with certain preconceptions in her mind, which she also retained to the last. She was disinclined to analyze very young children and was fearful of probing too deeply for fear of stirring up, too powerfully, their repressed tendencies or of making demands which their powers of assimilation were unable to meet. She postulated also that the analyst should be required to exert a definite educative influence.

Melanie Klein<sup>43</sup> disagreed. In "The Development of a Child,"<sup>44</sup> she claimed that it was not only possible, but salutary to analyze younger children, to probe the Oedipus complex to its depths and obtain results equalling adult analysis. She found it unnecessary to exert an educative influence; in fact declared the two things incompatible. In short, she found the analysis of children from 3-6 years old successful and full of promise.

Anna Freud, following Hug-Hellmuth, supported her ideas. In addition she claimed the children's relation to the parents should not be too much handled. She asserted that the child's progress is slower and a different technique is necessary than for an adult because a child does not develop a transference neurosis.

Jones,<sup>45</sup> summing up the opposing schools of thought, said they could be sharply contrasted as follows: One school believes prob-



lems of analysis to be essentially similar in adults and children, e. g., in both an unsolved conflict exists between repressed libido and the ego, spurred on by an unduly severe super-ego. Psychoanalysis assumes that if the unreasonable demands of the super-ego are brought into closer contact with reality, e. g., the conscious ego, the latter can safely be trusted to find a better way of dealing with id impulses than the previous blind denial and repression. Objectors fear that the ego is incapable of coping with these impulses and therefore it would be safer to repress them. Experience, however, has taught the psychoanalyst that the ego is stronger than its critics think and can be trusted to meet all reasonable social demands in controlling the instinctual impulses. With children, however, where the educative demands are meeting with great opposition, the cries and fears of critics are redoubled, but this school believes enough experience has been accumulated to indicate that criticisms are as unfounded in this case as they have long been proved to be in respect of adults.

The opposite view holds that the ego of the young child is still too weak and undeveloped to control its impulses without the assistance of strong repression. It is too weak to function independently of the parents. There is, therefore, little to do except to strengthen the moral and pedagogic influence of the parents, wisely modifying this where necessary. This view claims that the conflict in the neurosis that exists even at this early age is between the child's nature and the parental influence, e. g., it is essentially an external conflict between individuals and not, as we see in adults, an internal one within an individual mind; it would thus differ from all other neuroses. Therefore to allow the child and still more to encourage it, to express any hostility towards the parents would be to withdraw the only existing defense against the uncontrolled domination by the id and develop that state of affairs that critics fear.

This objection, again, is perfectly logical and valid if it could be proved that the child's control is entirely dependent on parental influence. It is only true in so far as the adult's self-control is dependent on the functioning of various external social authorities. But it is not hard to show that in neurosis the conflict is es-

essentially an internal one, and that fear of authority is mainly a rationalization of the fear of the super-ego. It is well known that infants assimilate both pleasurable excitations and educative measures in terms of their own instinctual dispositions; the equating of overheard coitus with sadism, and of admonition with castration are classical examples of the process. It is a serious error to identify throughout the child's unconscious and fantastic super-ego with the conscious educative influence of the parents merely because the direction of the two (in checking the primitive impulses) coincides in broad outline.

Whether the analytic view can be extended from the adult to young children, and thus be converted into a harmonious generalization covering the whole field of neurosis, will, declares Jones, be decided by experience and not by argument.

The arguments, pro and con, of these two schools have continued down to the present time, and recently have been embodied in two volumes: one, an "Introduction to the Technic of Child Analysis," by Anna Freud,<sup>46</sup> and another, "The Development of a Child," by Melanie Klein.<sup>47</sup>

The writer cannot presume to comment on the respective merits of the two systems which, at first glance, seem rather far apart. Doubtless, there is good in both of them, and in time this quality will survive to the benefit of children, psychoanalysis and society. The art technique of Anna Freud and the play technique of Miss Klein have already emerged as valuable contributions to the study of the child mind. They are being amplified and extended by investigators the world over.

At present, therefore, it would seem that analysis of children has proved more valuable as a matter of research than of actual treatment.

#### CONCLUSION

After surveying, even if rather sketchily, the literature of the treatment of behavior problems in children, one cannot help being impressed by the great advances which have been made in this branch of the therapeutic art. Never before has the spotlight of public interest been so focused upon the child as in the last quarter

century, but even as this is being written signs are apparent that the focus of attention is shifting beyond the child to the conditions which create the problem of children.

The activities of the clinics have resulted in the accumulation of a vast amount of material most enlightening in its expose of the family, the school and the community. These revelations are destined to have far-reaching familial, educational and sociological consequences. As in other branches of medicine emphasis is being put upon prevention with, it may be anticipated, equally as beneficial results.

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## SURVEY OF CASES OF DEMENTIA PRAECOX DISCHARGED FROM THE PSYCHIATRIC INSTITUTE AND HOSPITAL\*

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The changed attitude toward the outlook in dementia praecox in recent years has been quite apparent; from the pessimism of Kraepelin, to whom the diagnosis was synonymous with deterioration, we have reverted to a quite definite optimism. In the main, two reasons are responsible for this reversal of opinion: 1) The almost total lack of unanimity as to what constitutes dementia praecox (schizophrenia) so that we are perhaps not all treating similar cases and 2) The reports of high recovery rates by many investigators using widely differing therapies, glandular, chemical, psychic, and others. Though the very volume of the therapies makes them suspect, each investigator advances the merit of his method, reports on its immediate success, voices optimism for the future, and frequently makes little or no effort to check his results after a period of time has elapsed. That there is need to determine whether this optimism is warranted is shown by the fact that the recovery rate in dementia praecox in the New York State hospitals has remained practically stationary for some years (1923-1934).<sup>1</sup> The average recovery rate for discharged patients in this 12-year period is 4.09 per cent. The rate for individual years has been practically constant with three exceptions, that for 1934 with 1.7 per cent being the lowest. Further, some 34 investigators using endocrine, chemical, and other therapies, in the treatment of 994 cases of dementia praecox, obtained an average recovery rate of 5.23 per cent. A tabulation of these results after Hinsie is quoted by Allen,<sup>2</sup> who later in his article states that the usual recovery rate in schizophrenia is 29 per cent, a figure for which he gives no source and which we believe is unwarranted.

This study was undertaken to ascertain the facts regarding the subsequent course of dementia praecox patients treated at the Psychiatric Institute since its opening, January, 1930, and discharged before January, 1933, and to study what factors including age,

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heredity, personality type, duration of illness before admission and treatment were significant in determining the outcome.

Originally, we planned to compare the results in incipient schizophrenia with those in more advanced types. From our study, especially of the early records, we found it impossible to differentiate with sufficient accuracy, these two groups. The difficulties particularly lay in the uncertainty in establishing the duration of illness prior to admission and in the failure on the part of the psychiatrist to commit himself in writing as to the stage of the illness and its prognosis. Nevertheless, since it has been the policy of the hospital to admit, if possible, early cases, favorable for treatment, we felt this study would give us an indication as to the results of our efforts.

We investigated the condition as of August, 1933, of these patients and the part the following factors played in their adjustment: (1) The intensity of treatment, (2) The duration of hospital residence, (3) age, (4) physical constitution, (5) family background, (6) pre-psychotic personality, and (7) amount of social service work done. In order to determine the degree of adjustment, we investigated their status at home, at school, in society, and their economic efficiency. We obtained wherever possible, statements from parents or close relatives, comparing the differences in personality before and after hospitalization and the medical and psychiatric attention since discharge.

There were 193 patients diagnosed dementia præcox and discharged before January 1, 1933. This does not include a group of well-advanced patients, transferred from other State hospitals for special CO<sub>2</sub>-O<sub>2</sub> treatment. These were previously reported by Hinsie, Brand, et al, in the January, 1934, issue of the PSYCHIATRIC QUARTERLY. Nor does it include four cases in which the diagnosis was uncertain. Of the 193 cases investigated, we were able to trace 170 up until August, 1933. One hundred and twenty-four, or 72.5 per cent, of these required subsequent admission to a mental hospital. This percentage is undoubtedly higher than would apply if the whole group could have been traced, since in the 22 patients not traced it is unlikely that such a high percentage were eventually hospitalized. Of the 124 cases rehospitalized, 77 were still in



mental hospitals unimproved, 10 were discharged from these hospitals as unimproved and 7 were dead. The remaining 30 were improved, 12 being still in hospitals and 18 in the community.

The other 47 patients did not need subsequent hospitalization. This group shows 14 unimproved, 2 dead, 22 improved (of these 10 are improved and 12 much improved) and 9 recovered.

In comparing the group that required hospitalization with the non-rehospitalized group, to find what factors made for continued adjustment in the one and subsequent rehospitalization in the other, we find that the mode of onset, age on admission, constitution, family background, social work done, and the pre-psychotic personality showed no significant differences in the two groups. Eighty-six per cent in the rehospitalized group and 82 per cent in the non-rehospitalized group showed a gradual onset. The age on admission fell between 14 and 40, the majority between 16 and 30, with a similar scatter in each group. Fifteen per cent of the rehospitalized group and 12 per cent of the non-rehospitalized group showed constitutional physical abnormalities predominantly polyglandular in type. Forty per cent of the rehospitalized group and 27 per cent of the non-rehospitalized group gave a history of definite psychopathology (psychoneurosis or psychosis) in the direct or collateral line. The amount of social service work done did not vary significantly. We hesitate to make a comparison of the personality make-up because in some of the records, the information was not present nor the study adequate. However, 61 per cent of the rehospitalized group were described as schizoid and only 55 per cent of the non-rehospitalized group were so described. A study of the duration of illness prior to admission is met with considerable difficulty. Yet it is significant that the non-rehospitalized group in which the improvement rate is much greater (66 per cent versus 24 per cent) showed a higher percentage with a duration of less than one year (49 per cent). In the rehospitalized group, only 35 per cent had a duration of less than one year. That this is of importance seems to be further emphasized when we note that 58 per cent of the improved community group had a duration of illness of less than one year in contrast to 27 per cent of the improved rehospitalized group. This seems to indicate that the re-

covery rate would be higher and subsequent hospital admissions perhaps avoided if we could see our patients earlier in their illness.

We were particularly interested in the relationship of the intensity of treatment to the future progress of the case; for simplification we rated therapy as intense or special, moderately intense, moderate, and little. The intense group consisted of 20 patients whose stay in the hospital was long, who had good rapport with physicians and nurses, who were seen daily or very frequently, or who had a special form of therapy, e. g., radiotherapy or CO<sub>2</sub> and O<sub>2</sub>. The less intense group consisted of 39 patients whose residence in the hospital was long but who were not worked with as thoroughly as the preceding group. The third or moderate group were in the Institute two to four months, or if longer, the records indicated they were infrequently contacted by the physician (66 patients). The last group, 46 patients, were here less than two months, had few interviews and poor rapport.

In group I (intensively treated), we had 7 patients treated by radiotherapy 5 by CO<sub>2</sub> and O<sub>2</sub> and 8 by intensive psychotherapy. Of these 20 patients, 10 had subsequent hospital admission and of these 10, 2 are dead and 8 are unimproved. The remaining 10 did not require subsequent rehospitalization; 6 of these have maintained an improvement and 4 are unimproved. If we combine the intense and moderately intense treatment groups, a total of 59 patients, we find that they were similarly represented in both the rehospitalized and non-rehospitalized groups, 33 per cent in one and 38 per cent in the other. Since there was a similar percentage in both these groups, we would be justified in expecting equally, a similar percentage of improvement in each group, if the intensity of treatment could be correlated with subsequent improvement. Yet the non-rehospitalized group shows 66 per cent of improved patients and the rehospitalized group only 24 per cent, showing clearly that there was no correlation between intensive therapy and improvement.

A further analysis of group I comparing the condition on discharge with the present condition, shows that at the time of discharge 9 were unimproved and 11 improved (three of these were recovered). Now, 11 are unimproved, 3 are dead and 6 are in the

improved group with only 2 considered recovered. This rate of improvement is about the same as for the entire group.

TABLE I. ANALYSIS OF GROUP I (INTENSIVE TREATMENT)

Condition on discharge		Present condition				
		Much		Improved	Unimproved	Died
		Recovered	improved			
Recovered .....	3	2	1	..	..	..
Much improved .....	3	..	..	..	3	..
Unimproved .....	5	..	1	2	2	..
Unimproved .....	9	..	..	..	6	3

In comparing the present condition of the entire group with their condition on discharge, we find that the percentage of improvement is similar, 38 per cent of the patients were improved at the time of discharge and at present 36 per cent are in the improved class. The groups, however, are not identical, about 30 per cent having changed places from improved to unimproved and vice versa.

TABLE II. ENTIRE GROUP 170 PATIENTS

Condition on discharge		Present condition				
		Much		Improved	Unimproved	Died
		Recovered	improved			
Recovered .....	5	3	1	..	1	..
Much improved .....	10	..	5	1	4	..
Improved .....	50	6	7	10	26	1
Unimproved .....	105	..	16	12	70	7

In considering only the hospital routine and residence as a factor, we find that 111 of the 170 traced were here no less than three months and a few were here one and one-half years; 82, or 72 per cent, required subsequent rehospitalization; 44 had a residence of at least six months and of these 24, or 54 per cent, required subsequent hospitalization. Of the 13 who were here more than one year, 9 were rehospitalized and 4 were not.

An analysis of the nine recovered cases was undertaken to determine whether something peculiar to these patients explained their recovery. Since we failed to discover any such distinguishing features, we compared similar cases that remained unimproved in the hope that this contrast might bring out differences not otherwise apparent. We found only eight similar cases. The contrasting cases are given below.

**J. G.**—Admitted June 9, 1930. An 18-year-old obese boy, became suddenly upset and cried on seeing in a newspaper the picture of a close friend, who had been arrested and sent to jail. Two days later said detectives were after him and was afraid to remain near the windows at home. A month later attempted suicide. During the next few months he was restless and paced the floor. Three weeks prior to admission almost stopped talking and responded only to question.

*Family history:* Marked obesity on both sides. Paternal grandfather depressed for six months before death at 38.

*Past history:* Blue baby. Normal development. Obese.

*Personality:* Playful and energetic as a child. After 13, following the death of his father became less sociable because of additional financial burdens, but still retained a few close friends.

*Physical examination:* Marked obesity. B. M. R. minus 19. Sugar tolerance normal.

*Mental status:* Shy, apprehensive, slow in movement, almost mute. Much blocking. Slightly depressed and retarded. He said detectives were after him. He heard voices calling him bad names. He was confused, had impairment of recent memory and was disoriented for time.

*Course:* Became more retarded, had to be fed and dressed and then he improved with a short period of hyperactivity. Again became assaultive and destructive. Then he improved and was paroled. Discharged April 4, 1931.

*Subsequent course and present condition:* He failed to adjust on parole and was sent to Bellevue and then to Central Islip, where he remains dull, indifferent, childish. He smiles to himself and gesticulates.

**I. W.**—Admitted November 24, 1931. A 19-year-old boy, was arrested while watching a "crap game." A week later became suddenly upset, fearful and felt that the police were watching him and following him. He heard people calling him names and saw them pointing at him.

*Family history:* Negative.

*Past history:* Negative.

*Personality:* Normal play as a child, little social activity later.

*Mental status:* Neat, bewildered, apprehensive, destructive. He misidentified people, talked to the walls, misinterpreted sounds, talked about judges and police courts. Sensorium clear.

*Course:* Erratic, explosive behavior, with frequent mood fluctuations. He was irritable, argumentative and fought with other patients. He was excited and overactive. He improved slowly and in four months was on parole ward. He regressed but within a month improved again and no longer showed any delusional ideas. He was not worked with intensively, treatment being directed to handling his disturbed state. He was discharged June 4, 1932.

*Subsequent course and present condition:* He remained at home 1½ months, got a job, made a good adjustment and when seen seemed perfectly well. The family concurred in this opinion.

**S. J.**—Admitted February 10, 1930. A 17-year-old male, became suddenly upset while working at his first job when a girl took a piece of candy from his stand without paying for it. Following the argument in which he was threatened he worried and was afraid that the girl's father was following him and would kill him. A couple of weeks later he injured his foot slightly, catching it between two subway trains. His symptoms became worse. He refused to leave the house. He became irritable. He would sit with his head bowed for hours. He was worried and unhappy. His work in school became poor.

*Family history:* Negative.

*Past history:* Bed wetter till 3, otherwise negative.

*Personality:* Studious, timid, shy, no interest in opposite sex, few friends, well liked by teachers at school.

*Physical examination:* Negative.

*Mental status:* Quiet, good-natured, neat in appearance. Restless and preoccupied. Vague, evasive, underproductive. Mildly euphoric. Smiled and laughed inappropriately. Felt he was being followed and threatened but was not certain whether it was real or imaginary. Complained that his head felt cloudy and that he felt separated from the world. Clear sensorium.

*Course:* His condition remained unchanged and he was discharged against advice June 5, 1930.

*Subsequent course and present condition:* He returned to school and though he had minor difficulties he was to graduate from school in 1931, but began to have difficulty and he was sent to Kings County. He was discharged in a few days and again returned in December and was committed to Kings Park, where he has been since. He grins to himself. He is incontinent, suspicious, has paranoid ideas and frequently becomes destructive.

**M. C.**—Admitted October 19, 1931. An 18-year-old male, who nine months before admission became delinquent in school; slovenly in appearance, moved in a fast crowd, spoke brazenly about necking and petting and finally left school. He engaged in many social activities, playing the violin, the ukelele. While on vacation he almost drowned, he developed anxiety states, was bewildered, frightened, dazed and behaved eccentrically. He spoke of gangsters and police knowing he committed murders. He was suspicious. He was taken to a sanatorium. He became stuporous, he refused to talk and eat and was incontinent. Admitted to Psychiatric Institute a month later.

*Family history:* Father and mother "nervous." One younger brother mentally deficient.

*Past history:* Difficult labor with forceps. Delicate baby but no serious illnesses.

*Personality:* Quiet, reserved but sociable, lively, hard worker, adaptable, got along well with boys but uncomfortable in the presence of the opposite sex.

*Physical examination:* Negative, except for a trace of albumen in urine and granular casts on one occasion.

*Mental status:* Passive, maintained postures. Refused to eat. Blank facial expression. Mute and retarded, incontinent.

*Course:* Began to improve three months after admission, dressed and fed himself, joined hospital routine and in six months was on parole ward. Attempts to go over his symptoms were met with failure. He would not elaborate on them. He said he heard voices and answered them while he was ill. He continued to improve and was discharged June 11, 1932.

*Subsequent course and present condition:* When seen he had finished one year of pharmacy school, was working and appeared recovered.



**C. F.**—Admitted July 14, 1931. A 20-year-old female, who one year before her admission felt that her employer was fond of her and that he blushed when he looked at her. Two months prior to her admission she left the office because "her nerves were sick." A month prior to her admission she was discharged. At this time she had definite delusions and possibly hallucinations. She cautioned her aunt not to speak loudly because people were following her. She believed her employer would get a divorce and marry her; that the children next door laughed at her, that there was a man in a hospital in Massachusetts and she searched for him. Later she felt that this man was with her all the time. She became self-absorbed, disinterested, cried and was irritable.

*Family history:* Lived with foster parents who were very kind to her since the age of six. Paternal grandmother—temperamental and nervous. Father, physician, drug and alcohol addict, died at 43. Mother, nurse, drug addict, separated from husband, lived with another man—died at 40.

*Past history:* Frail, delicate, bottle-fed. Closely attached to father, frequently had to visit saloon to bring him home.

*Personality:* Self-centered, fond of sports, made friends, but they were not lasting.

*Physical examination:* Negative.

*Mental status:* Cooperative, quiet, seclusive, depressed and worried. Suspicious of other patients. She showed vague delusional ideas that men were in love with her. She read meaning into things. Linen folded in a certain way meant something, etc. No definite hallucinatory phenomena. She felt she was being controlled by a master mind and that an experiment was being done on her. Sensorium clear.

*Course:* Five months after admission began to improve gradually. At time of discharge (July 14, 1932) she had given up some of her ideas.

**B. B.**—Admitted February 22, 1932. A 30-year-old female, two years prior to admission following the birth of her second child had ideas that her husband was unfaithful. Two months before admission, suddenly complained that something snapped in her head. Said that medicine was being put in her food, misidentified people, had auditory hallucinations. She remained in bed and did not take care of her children.

*Family history:* One younger brother dementia præcox, one paternal uncle and one maternal uncle psychotic.

*Past history:* Negative.

*Personality:* Sociable, interested in sports and dancing, reserved and somewhat seclusive since marriage at 20.

*Physical examination:* Negative.

*Mental status:* Neatly dressed, quiet, seclusive, cooperated reluctantly, agitated at times. Mildly depressed. She showed sudden unexplained outbursts of laughter. She felt her psychotic brother was well and that the doctor had been treating her for the past six years instead. She thought that the doctor would divorce his wife and marry her. She said she saw her brother through the window and that he was on crutches but this was a show put on for her benefit. Sensorium clear.

*Course:* She became more agitated, sullen and uncooperative, was disturbed by voices over the radio talking to her, was assaultive, antagonistic and delusional. Discharged May 9, 1932.

*Subsequent course and present condition:* She was committed to a State hospital and later transferred to another where she remains resistive, assaultive, hallucinated and delusional.

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*Subsequent course and present condition:* Went to work at a club, made contacts and got another job and when seen was self-supporting, independent and apparently well.



**I. H.**—Admitted July 7, 1930. A 20-year-old girl. Began to gain weight about nine months before admission and was put on thyroid treatment. Became nervous, took an overdose intentionally. Following this was suspicious and seclusive, was unable to sleep, could not concentrate, cried, laughed occasionally, refused to eat, felt people were talking about her.

*Family history:* Negative.

*Past history:* Small baby, feeding problem but otherwise normal development.

*Personality:* Energetic, vivacious, bright, adaptable, optimistic, cheerful, many friends.

*Physical examination:* Negative except B. M. R. —3 and —9 after taking thyroid, —26 and —19 when off thyroid.

*Mental status:* Neat and clean, sociable, interested. Stream spontaneous with no disorders, mildly elated but no psychomotor activities. In her trend she spoke of her masturbation since the age of 3, her homosexual relations for the past two years. She said she felt she was bi-sexual on the basis of an endocrine disorder. No definite hallucinatory or delusional phenomena elicited. Sensorium clear. She stated, "Sometimes I fly into rages, I get incoherent ideas; afterwards I realize how ridiculous they are. I thought that everyone was staring at me. I feel that there is nothing of consequence and I want to commit suicide."

*Course:* She adjusted well for about a month then became preoccupied, uncooperative, sarcastic. She behaved irrationally, refused to send clothes to the laundry but hid them away in a dresser drawer while still wet. She became agitated, destructive, noisy, suspicious. She sat by herself and giggled. She attempted suicide. She was discharged September 22, 1930, against advice.

*Subsequent course and present condition:* Sent to a State hospital where her behavior was as above. She improved and

**V. C. W.**—Admitted February 18, 1930. A 20-year-old female, who five months before admission (a week after beginning a nurse's training course) became upset, cried, was preoccupied, felt that the family was against her, showed emotional instability, laughing and crying without apparent cause. She was taken to Neurological Institute, where she began to sing out loud. Felt everyone thought she was a bad woman, had ideas of reference. She showed impulsive behavior, was destructive. She was taken home, was sleepless, refused to eat because the food was poisoned, attempted to run away, was taken to Bellevue and then here.

*Family history:* Negative.

*Past history:* Premature birth, (eight months). Blue baby. Convulsions up to two months. Delicate child but otherwise no illnesses.

*Personality:* Interested in athletics, generous and considerate, frank and outspoken, jovial, friendly, pleasant, naïve in sex matters. Brought up in strict Catholic home.

*Physical examination:* Short, small-boned but otherwise negative.

*Physical examination:* Indignant, uncooperative, haughty. She felt she was here for a nurse's training. She was seclusive and asocial. She assumed a peculiar foreign accent. Had delusions of grandeur and nobility. Said her parents were dead and she had a special mission in life. Felt her food was poisoned. Had visual and auditory hallucinations. Clear sensorium.

*Course:* Became more cooperative, but maintained the same delusional ideas for about a month then they became less fixed and she began to improve rapidly and she was discharged May 10, 1930.

*Subsequent course and present condition:* Remained home for the summer, took some dancing course and a course in college. Did a lot of work about the house. When seen

was paroled. Then attempted suicide and was returned. She has been to two sanatoria since. When last heard from she was still residing in one, was untidy, underproductive, but no hallucinatory or delusional phenomena.

**I. M.**—Admitted March 29, 1932. A 25-year-old man, who, for the past 10 years, has lacked self-confidence and two years before admission became afraid to remain alone, felt that every motion he made was strange; that he was losing his mind, that he could not figure out what was right or wrong and with this showed considerable anxiety.

*Family history:* Negative, except that father was nervous and unstable.

*Past history:* Negative, except that he never worked steadily.

*Personality:* Average intelligence, many play activities and playmates. Rather narrow interests.

*Physical examination:* Mild secondary anemia, undernourished, otherwise negative.

*Mental status:* Compliant, fairly cooperative, careless in appearance, seclusive, downcast, hopeless and craved sympathy. He was suggestible and accepted reassurance. He showed no disorder of stream. He felt that people suspected him of degenerate ideas. He worried over his masturbation. He was afraid that he would die. He could not sleep. No hallucinatory or delusional phenomena were elicited.

*Course:* He became restless, agitated, wept and felt he would die. He was suspicious, felt that he was being watched, that the medicine would kill him. He tried to climb out of the window; insisted on his discharge and was discharged against advice, May 7, 1933.

*Subsequent course and present condition:* He has resided in State hospitals since his discharge and the reports from Rockland described him as "evasive, suspicious, with auditory hallucinations."

she appeared recovered and her family corroborated this.

**N. L. H.**—Admitted August 1, 1931. A 38-year-old female, who attempted suicide following marital difficulties. Finally separated from her husband and during the trial for divorce proceedings, became upset, said she would kill her husband and his new wife, was under extreme tension, worried, excited, and was admitted to the hospital.

*Family history:* Insanity of father (?)

*Past history:* Eloped at 16. Husband in difficulty with another woman. Patient had to finance him. Several abortions.

*Personality:* Average intelligence, interested in reading, arts and sports.

*Physical examination:* Negative.

*Mental status:* Neat, clean, agreeable and cooperative. Sociable, mixed readily with other patients. At times restless and worried, short crying spells. Good affect, no delusional or hallucinatory material.

*Course:* Though she was irritable at times, she continued about as described, became somewhat elated and then improved, took a course in dietetics and she was discharged October 11, 1931.

*Subsequent course and present condition:* When she left the hospital she finished her course in dietetics, she has been working at it since and is making a good adjustment.

**J. S.**—Admitted October 7, 1931. Age 16. One year after arrival to the U. S. A., found difficulty in making social adjustments. He tried to learn English by going to night school but gave this up. He became homesick, depressed, lonesome and worried at not being able to adjust here. He asked to be sent back to Poland, expressed resentment against his parents for bringing him here. He began to quarrel with them, threatened to kill them, struck his father, and threatened suicide. He became careless of his appearance.

*Family history:* Negative.

*Past history:* Bed wetter to age of 4; otherwise negative.

*Personality:* Average intelligence, active socially, well-behaved and happy. Many friends but backward with strangers.

*Physical examination:* Negative.

*Mental status:* He was neat and clean, quiet, but passively sociable. Stream was underproductive and retarded, but relevant and coherent. He was disinterested and depressed. His trend concerned itself with his difficulties in learning English, in making a social adjustment here, etc. He lost interest, wanted to be left alone. No delusional or hallucinatory material elicited. Sensorium clear.

*Course:* He showed some improvement after 10 days and then became more depressed and disinterested and listless and showed some inappropriate affect, grinning and silly smiling. Once he threatened a nurse. Discharged February 6, 1932.

*Subsequent course and present condition:* After a stay at Kings Park for two months he was paroled and remained at home for almost a year but was dull, irritable and disinterested. When he became abusive he was returned and now is indifferent and manneristic.

**E. H.**—Admitted December 13, 1930. A 23-year-old engineer, who in August, 1930, returned home from vacation. Found his grandfather with stroke; his father dying of tuberculosis, the family funds exhausted and his fiancée indifferent. In November he felt lonely, could not sleep, became seclusive, he was afraid that he might die. Developed ideas of reference with regard to his fellow employees and became worried that he might be homosexual.

*Family history:* Negative.

*Past history:* Negative, except for prolonged dry labor (49 hours).

*Personality:* Shy, reticent, sensitive, reacted poorly to failures. No interest in opposite sex, except for one girl. Devoted to mother, offended by talk of sex, asocial and a poor mixer.

*Physical examination:* Negative.

*Mental status:* Restless, anxious, tense; underproductive, but relevant and coherent. Uncooperative, suspicious, uneasy and indecisive. Anxious and weeping. No delusional or hallucinatory ideas. Sensorium clear.

*Course:* Became more apprehensive, agitated and withdrawn and in one week became stuporous. Then he improved some, became worse again, and a month later received O<sub>2</sub> and CO<sub>2</sub> treatments. He began to improve a month later and continued until he recovered and was discharged, November 10, 1931.

*Subsequent course and present condition:* We have no direct communication but his mother with whom he has kept in touch since leaving the hospital states that he is in good mental and physical health.

**B. K.**—Admitted June 30, 1931. An 18-year-old girl of superior intelligence. Became despondent at failure to obtain admission to college that she chose and transferred to another where she was further disappointed at not receiving an invitation to her favorite sorority. She began to find work difficult, complained of inability to concentrate, made poor grades. She felt dazed and dreamy and after still another disappointment when a boy who had been attentive to her took another girl to the prom she became upset and felt guilty because there were some things stolen from other people. She felt as if she was being blamed, became nervous, restless and sleepless and was unable to go to classes. She remained at home for several months, complained of choking sensation in her throat, that she needed oxygen. She showed considerable anxiety and she was admitted to Psychiatric Institute.

*Family history:* Parents emotional and overindulgent.

*Past history:* Negative.

*Personality:* Very bright, interested in literature, arts and school activities. Closely attached to parents, but sociable and interested in sports. Religious. Daydreamed a great deal.

*Physical examination:* Negative. B. M. R. minus 20.

*Mental status:* Self-conscious, somewhat seclusive. Varying moods, silly and giggly at times, at others moderately elated, at still others restless, perplexed, depressed. Speech spontaneous but diminished. Evasive but no definite hallucinatory or delusional phenomena.

*Course:* Became progressively worse, obstinate, antagonistic and assaultive, at times overactive, with loud screaming. Hallucinatory and delusional phenomena of a bizarre nature that she was possessed of Satan, that she was the Lady of the Moon, etc. Still later she became destructive, noisy, grimacing, had to be tube-fed and

**M. H.**—Admitted October 29, 1930. A 16-year-old girl, became ill suddenly, two months prior to her admission and complained of headache, of a throbbing sort, and insomnia. She became apprehensive, refused to eat and thought that her food was being poisoned. Showed retention of urine and feces, had amenorrhoea. She was depressed, fearful and had ideas of reference.

*Family history:* Maternal grandparents "nervous." Maternal grandaunt, depressive psychosis. Mother, nervous episode at 13. Brother, dementia præcox. Parents quarreled a good deal.

*Past history:* Negative.

*Personality:* Friendly, congenial, wide range of interests, somewhat religious.

*Physical examination:* Mild acne, mild secondary anemia. Otherwise negative.

*Mental status:* Negativistic, apprehensive, depressed, refused food, refused to be questioned, seclusive, sudden and irritable. Showed much frowning and grimacing. Had to be dressed and spoonfed. No hallucinatory or delusional phenomena elicited.

*Course:* Continued depressed, retarded, fearful and sullen for about four months. Then began to eat, became overactive, talkative and elated. Became more communicative. Spoke of her former suspicions, about dictaphones and murders. Gradually improved. She was discharged February 12, 1932.

*Subsequent course and present condition:* Maintains her recovered state.

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was completely uncooperative. She was discharged June 12, 1932.

*Subsequent course and present condition:* Went to a private sanatorium where she continued unimproved and at the time she was discharged (February 12, 1933) described as "laughing, giggling, silly, irrelevant."

**Z. H.**—Admitted December 2, 1931. A 21-year-old female, who three years before admission, began to complain of pain in the shoulder and back. A tonsillectomy was performed, she became more nervous, fidgety, and seclusive and complained of pain in back and stomach; her appendix was removed. She showed palpitation, shaking of the hands and her thyroid was removed. The symptoms continued and she began to be aware of a strong sexual desire whereupon she became promiscuous and indulged in perversions and was finally hospitalized.

*Family history:* Negative.

*Past history:* Negative.

*Personality:* Average intelligence. Care-free, happy-go-lucky, danced, sang, liked music and the theater. Interested and friendly as a child but few adult friends.

*Physical examination:* Negative B. M. H. minus 10.

*Mental status:* Neat and clean. Mingled well with other patients. Showed no disorder of stream. Moods were variable. Agitated and depressed, cried and worried, yet at other times laughed and joked with appropriate affect. No delusional or hallucinatory trends elicited. She worried about sexual longings and perversions and her promiscuity. Clear sensorium.

*Course:* Severe and persistent hypochondriasis, accompanied by crying and agitation. Complained of tightness of the throat, paralysis of arms, lightness and softness of head, inability to think, and loss of memory. She became quarrelsome, uncooperative, refused to eat and expressed the desire to die. She was discharged April 20, 1932.

*Subsequent course and present condition:* At Kings Park soon after discharge. Described as uncooperative, untidy, assaultive, with many somatic complaints. Showed some improvement and was paroled September, 1932. Had to be returned February, 1933, and at the time of the check-up (July 26, 1933) still remains unimproved.

**J. M.**—Admitted October 9, 1931. A 29-year-old female, who some six months before admission, began to have ideas of reference and many somatic complaints—gastric pain, anorexia, insomnia, nervousness and tightness of the throat.

*Family history:* Father committed suicide when patient was 9.

*Past history:* An infant prodigy, much pampered, spent most of her time with adults. Later refused the aid of her benefactors and worked as an entertainer in night clubs. Similar episode three years ago lasting three months.

*Physical examination:* After the onset of symptoms and just prior to admission, she was operated on for fistula in anom; otherwise negative.

*Personality:* Seclusive, shy, few friends of her own age.

*Mental status:* Somewhat depressed and anxious, quiet, shy, seclusive and sensitive. No delusional or hallucinatory ideas.

*Courses* Throughout her stay rapport with the patient was poor. She was evasive, refused to discuss her difficulty, and insisted on her discharge and on December 22, 1931, she was discharged.

*Subsequent course and present condition:* At the time of the check-up (July, 1933) she appeared recovered.

### SUMMARY AND CONCLUSIONS

1. One hundred and ninety-three cases of dementia præcox discharged from the Institute up until January, 1933, were investigated, of which 170 were traced.

2. One hundred and twenty-four, or 72.5 per cent, of cases traced required subsequent rehospitalization.

3. Of 20 patients intensively treated, 6 are improved but only 2 of these are recovered.

4. Of the entire group of 170 patients, 61, or 36 per cent, are improved but only 9 of these are recovered.

5. Recovery or improvement rate was greater in the non-rehospitalized group but could not be correlated with the intensity of treatment.

6. Hospital residence of three to six months or longer did not seem to prevent further hospitalization.

7. The diagnosis at the time of discharge agreed closely (98 per cent) with that made at subsequent hospitals.

8. In the majority of cases, recoveries seemed unexplained and not causally related to therapy. Unimproved cases, when compared with similar recovered cases showed such a distribution of the accepted criteria for prognosis—(sudden onset—previous personality—confusion—bizarre behavior and depth of affective disturbance, etc.) as to question their value in forecasting the future course.

Our findings emphasize that the treatment of dementia præcox in hospitalized patients is still not gratifying and that the optimism of recent years is perhaps unwarranted. In presenting this survey, it is not our purpose to discourage the present aims in treatment, but rather to attain an awareness of the facts influencing the subsequent course of patients. The knowledge of the discrepancy between our aims and results in therapy should make us less content with our present methods and stimulate us to more intensive



work perhaps in other directions. Whatever therapies will finally yield the most favorable results can only be established through repeated investigations.

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## PSYCHOSES OCCURRING IN A FATHER AND HIS TWO DAUGHTERS

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Psychoses in several members of one family are not uncommon. In the cases to be described however, of a father and his two daughters, their psychoses were closely and directly related, occurred more or less simultaneously and had some distinctive features in common. In addition the study reveals the baneful influence, both immediate and remote, of unhealthy familial attitudes.

The maternal grandparents of the girls in question died in old age of heart disease. A maternal married aunt and a maternal uncle who was in the insurance business were alive and well. One maternal uncle was drowned and another suffering from alcoholic psychosis died in a State hospital.

The paternal grandfather "who never dared say a word" died in 1918 at the age of 65 of heart disease. The paternal grandmother survived him and was left well-to-do. She was domineering and bossed everybody. One paternal uncle died in youth of tuberculosis. One died in later life of stomach trouble. One is a consulting engineer and married and one is a professor of engineering, separated from his wife and described as resembling his mother in character. Still another uncle, also an engineer, is said to be "delicate." There is only one paternal aunt and she is married and said to be nervous and talkative.

The father, Mr. Smith (name and unessential details changed for purpose of disguise) was born in Brooklyn in 1879. He graduated from high school and completed two years of college work. In 1903 he married and spent the next few years in Colorado, managing a farm owned by his parents. On April 14, 1905, a daughter, Dorothy, was born. Mr. Smith could not make a success of the farm and was supported in part by his parents. Finally when Dorothy was 18 months old Mr. Smith took his family back to New York and attempted farming again, this time in the Catskills. A son, Martin, was born two years after Dorothy and the third child, a daughter, Elmira, was born on March 26, 1911. Mr. Smith's second attempt at farming was as unsuccessful as his first and he

continued to receive support from his parents. When his father died in 1918 his mother had him bring his family to live with her. She employed him as a handyman and caretaker of her estate. He was completely dominated by her and was ever at her beck and call just as he had always been. To her dominance he had always reacted with complete submission. He was inadequate, never wholly supported himself and always required assistance from his parents. His dependence upon his mother was so obvious and known that Mrs. Smith's mother had warned her not to marry him. His marital adjustment was entirely inadequate. He was not passionate and did not care for intercourse. He lavished all his love and affection on his two daughters and they reciprocated. He devoted his life to them and worshipped them.

The two girls got along well together. Their early lives were uneventful. They did well in school and nothing in particular was noticed about them. From 1918 on they lived in their grandmother's home. There they were under her eternal vigilance and dominance. They had very little liberty, were not allowed to go out with boys or bring them home and had to keep very early hours. Their lives at home were miserable and it seemed they could never do anything to please their grandmother. In school, however, they both made very satisfactory adjustments. Dorothy had some interest in music and a fair degree of talent in drawing. She was romantically inclined, did some daydreaming and attempted some poetry. Elmira had a strong interest in athletics, was a star basketball player, captain of her high school soccer team and in her senior year was voted the second most popular girl in the class. She was of a more lively and cheerful disposition than Dorothy. In addition to her attachment to her father, Elmira was very fond of her brother, Martin, who was described as being natural and normal.

The only member of the household who allowed herself some measure of protest was the mother and she was made to feel by the grandmother that she was not very welcome in the grandmother's home. She could not even have her husband for herself. When she would want him to take her out he would have to stay home and play cards with his mother instead. If he did go out his

mother would have to go along. It was not only her husband who was lost to Mrs. Smith, but in a sense her daughters too. They loved their father very much more than their mother. Their father always gave in to them whereas their mother had to be their disciplinarian. The atmosphere in the home was unwholesome, frigid and inhibited.

When Dorothy was in her fourth year in high school, at the age of eighteen, she insisted upon marrying a young man who was a house painter and not in her social set. She had had relations with him prior to marriage and used this as a reason necessitating her marriage. Her husband was apparently somewhat indolent, could not provide properly for her and their married life was chiefly unhappy. She was frigid, did not want intercourse and told her husband that marriage should be holy and pure. Because her husband could not adequately provide for her she obtained a position as bookkeeper for a landscape artist. As she had some talent for drawing she learned to draft plans for gardens and acquired some responsibility and also some attention from her employer whom she evidently found attractive. She thought of him a great deal in a romantic way and often imagined themselves in romantic situations. However, she never carried her phantasies to the extent of imagining the final sexual act. On one occasion her employer attempted some slight physical intimacy. He did nothing more than put his arms around her but it upset her a good deal and made it impossible for her to any longer derive satisfaction from her relations with him. She had previously written many romantic poems concerning him, but then stopped. She became more and more discontented with her life and from 1928 to 1930 complained a good deal of headaches. In August of 1929 she spent 10 days in a hospital for examination, was seen by a neurologist who advised that she leave her husband. In November 1929 she returned to her parents' home.

During all this time she was very nervous and depressed and had to have her mother's constant company and help. Her husband became angry when she failed to return to him. Finally she did so and there were jealous quarrels. In December of 1929 she gave up her position. Shortly afterwards she had some operation

upon her nose. Following this she was in an extremely nervous condition, walked the floors, wrung her hands, made quick, excited movements, incessantly complained that she was going to lose her mind, that she could not think ahead and that she could think only of the past. During the Christmas holidays of 1929 Elmira, who had entered a teachers' training school in September, came home for a vacation. She observed Dorothy's condition and was somewhat affected by it. She had crying spells and seemed to lose some of her interest in her home. At the end of the Christmas holidays Elmira returned to school and no further thought was given to her condition. In January of 1930 Dorothy was examined at the Neurological Institute, did not get any better, cried a great deal, picked her skin and sat up in bed all night. In February Elmira wrote from school that she could not seem to keep up with her work and wanted to discontinue and come home. Her mother visited her at the school and coaxed her to remain longer. In March she stopped writing and answering letters and in April a telegram was received by the parents that she needed medical care. Her brother was sent to bring her home. She was apathetic, did not talk, ate very little, slept most of the time and seemed to be in a stupor.

At the same time Dorothy had shown no improvement in her condition and on April 19, was admitted to Louden-Knickerbocker Hall as a voluntary case. There she was sullen, evasive, obviously depressed. She begged for her release, said that everything she had done was a mistake. She said she wanted to die, that she knew she would never get well, that she would rather be dead than be in an asylum. She was discharged as unimproved on May 11, the diagnosis being manic-depressive; depressive type. She then went to live with her husband but was still depressed, attempted suicide by gas and had to be sent to her mother for care. Her mother became worn out caring for her and then sent her to an aunt. Dorothy continued to be depressed, spoke at great length about suicide and her fear of going crazy. She said that she had caused her family to suffer, that she had nothing to live for, that she felt as though she were in a living hell and wanted to be killed. She was admitted to Central Islip State Hospital on July 24.

During this time Elmira's condition had also shown no improvement. During the time Dorothy was at home Elmira acted in a peculiar manner, picking at her face and talking much about the past. The two girls were together a good deal. For two months prior to Dorothy's admission to Central Islip Elmira showed signs of negativism and slept more than usual. She is once said to have slept for 36 hours, probably referring to a stuporous state. In August, shortly after Dorothy's commitment, Elmira ran away from home and when she was brought back was very unruly; she had gone to look for work dressed in boy's clothes, smoked cigarettes to excess, called up many boys and went out with them unless restrained. This was in contrast to her previous attitude toward boys, that of ladylike behavior and reserve.

The mental conditions of the two girls caused the father to worry a great deal and he became restless and depressed. He was more attached to Elmira than to Dorothy and during Elmira's mental upset had her sleep with him at night in order to make sure that nothing happened to her. However, Elmira became so unmanageable at home that on August 12, it was necessary to commit her to Kings Park State Hospital. In the meantime the father's condition became more serious. He became very much depressed, could no longer do any work, said he was a failure, constantly thought about his children and finally tried to shoot himself. In August, a short time after Elmira's commitment, he was taken to a sanitarium at Westport, Connecticut. There he attempted suicide by biting his wrists; he lost weight, remained depressed and agitated and on December 14 was transferred to the Long Island Home.

#### THE CASE OF THE FATHER

As already stated he was admitted to the Long Island Home on December 14, 1930. There he was depressed and agitated, was self-derogatory, said he was a ruined man, that he had brought everything upon himself, that he was a curse to everyone on earth, that his condition ruined his entire family and that he was the cause of his daughters' mental illnesses. He said he could not eat, that his intestines were filled, that food did not pass through him and that



some of his intestines were dead. He admitted having made suicidal attempts and stated that he would rather be dead than alive. He showed no improvement during his stay, remained depressed, agitated, suicidal and self-accusatory. He developed bronchopneumonia and died on August 8, 1931. Diagnosis: involution melancholia. Cause of death: Bronchopneumonia.

#### SUMMARY

During his life he was subjected to the very domineering attitude of his mother. He reacted with complete submission, was inadequate, made an ineffectual marital adjustment and even after marriage remained attached to and under the dominance of his mother. Apparently he obtained his emotional gratification through his two daughters. He was genuinely fond of them. When they both became ill at about the same time he quickly reacted, became depressed and agitated, had to be hospitalized and finally died. His agitation, depression, suicidal tendencies, self-condemnatory trend, characteristic somatic delusions and the age of occurrence with absence of previous attacks indicate the diagnosis of involution melancholia. His feeling of guilt and the recognition of his own role in his daughters' difficulties is indicated by the statement he made while in the Long Island Home, that he was the cause of his daughters' mental illnesses.

#### THE CASE OF DOROTHY

As already stated, Dorothy was admitted to Central Islip State Hospital on July 24, 1930. Physical examination was essentially negative. Blood Wassermann negative. Her skin was disfigured by self-inflicted abrasions. She was depressed, at first a little restless, but later readily discussed her case and was anxious to have the physician's opinion of it. She complained of terrible thoughts, particularly the fear of losing her mind and of being restrained among the insane. She spoke of her conflict over her marriage and her desire for a different life. After admission she was restless, paced about the ward biting her nails and picking at her skin and at times having outbreaks of weeping. She wanted to indulge in long discussions of her symptoms and did this mostly with visiting

friends. In October she showed suicidal tendencies, confiding to someone a scheme for hanging herself. When kept under closer observation she reacted badly, was very agitated. One day she chewed upon a piece of phonograph record. When she was not allowed to go home she threw herself on the floor and screamed. During the Christmas season she showed some improvement and was interested in painting Christmas cards. In January of 1931 she had an acute tonsillitis. During March many conversations were had with her to give her insight into her condition. It was attempted to discuss with her her attitude toward sex. She was disinclined to converse about it and in general at first tried to avoid all approach to her troubles. For a while she developed an almost obsessive thought that she was going to be transferred to a different ward. She would frequently ask where this was going to take place, possibly to a more disturbed ward. She showed much concern about this and efforts to reassure her that she would not be transferred were futile. This was felt to be a reaction on her part against the attempt to bring her to some understanding of her situation. She later changed and it was possible to have more extended conversations with her about her difficulties. She was frigid in her marital relations, always felt guilty about intercourse and sexual matters and always tried to put them out of her mind. The phantasies in which she had indulged on the outside, as for example, her romantic phantasies concerning her employer, had never included "carnal" things as she called them. However, in the hospital for the first time she thought a good deal about intercourse, not as regards herself, but as regards the possibility of her husband having intercourse with other women. She would imagine this and feel jealous and envious. At the same time she would feel guilty about it.

In this connection it is interesting that another topic that gave her much concern at the same time was worry over her father whom she knew to be in a mental hospital. She would frequently picture him to herself "in the ragged clothes of an asylum inmate." Again her conscience would bother her and she would feel as though she were to blame for his difficulties. She stated furthermore that when her mother visited her at the hospital she would feel holy

and pure whereas when her husband visited her she would feel guilty and carnal. She had insight into her attachment to her father and once expressed this quite clearly when she said that her father who was in a mental hospital was being punished because he had loved his daughters too much. Possibly the too strong father-daughter attachment accounted for the guilt with which ideas of intercourse were associated in her mind. Punishment to her, involved in her agitated mental illness and her hospitalization, perhaps permitted her the partial satisfaction of imagining intercourse. However, even then she could not imagine herself having it, but had to project this onto her husband having it with someone else. It was attempted to present to her a more natural attitude toward sex, to free her from feeling of guilt and to make her see the implications involved in the relationship between her father and herself. She explained that she had developed the attitude in her home that sex was nasty and bad, not respectable, and that intercourse was something that one was not supposed to enjoy. She improved and on August 15, 1931, was paroled for a period of one year to the custody of her mother. During her parole period she adjusted well, secured employment in a millinery store and later bought the store, ran it herself and was moderately successful. She was sociable, indulged in adequate recreation and showed no signs of mental illness. She remained separated from her husband and spoke of obtaining a divorce in the future. On August 15, 1932, she was discharged at the expiration of parole.

In January of 1933 she was still doing well, said that her attitude toward sex was much different, that she felt passionate although she had never felt that way prior to her hospitalization. She described a brief affair she had had with a chum she had known from childhood days. She had intercourse with him several times, but only after her inhibitions could be released by means of some degree of drinking. For the first time she enjoyed intercourse. She added that she had always considered that it was abnormal to have sexual desires. She considered that the affair she was having was sinful and so she finally terminated it. She was undecided in her mind regarding her husband. She thought of him several times and had not decided whether to see him. Even in thinking of him

she felt passionately inclined, which had never been the case before. She felt entirely recovered, was appreciative of the treatment she had received in the hospital, though she added that at the time she considered the information given her about sex quite dreadful. She later had her sister, Elmira, take care of her hat shop while she went to work as a nursemaid.

#### SUMMARY

Dorothy was subjected to the dominance of her grandmother who gave her little liberty and prevented her from leading a normal social life. A strong attachment developed between Dorothy and her father. In her last year of high school she married rather suddenly a young man, her social inferior, with whom she had had some sexual experiences. She could not make a satisfactory marital adjustment and had a marked conflict over sex, being unable to overcome her repugnance for intercourse. She became depressed, agitated and suicidal and was therefore hospitalized. Essential symptoms were depression, agitation and suicidal tendencies. There was some preoccupation with fear of losing her mind and "being restrained among lunatics". She occasionally gave expression to feelings of guilt. Once she said she had caused her family to suffer and she wanted to die and to be killed. Retardation was not present. The symptomology summarized led to the diagnosis of manic-depressive psychosis; depressive type. She gained some insight, once speaking of her father being punished in his illness because he loved his daughters too much. After leaving the hospital she made a fairly good adjustment, had no return of symptoms and showed a different and more natural attitude toward sex. The prognosis appears favorable.

#### THE CASE OF ELMIRA

As already stated she was admitted to Kings Park State Hospital on August 12, 1930. She was restless, resistive, noisy but later became more quiet and agreeable. She admitted a nervous breakdown and peculiar behavior and said she had worried over her sister's insanity. She also admitted a strong attachment to her father. Her conduct was variable. At times she was seclusive

and lacked interest in her surroundings. At other times she was facetious, overactive and restless. She showed considerable erotic behavior. She wrote several amorous letters to a male attendant. She wrote love letters to boys she knew on the outside. She spoke in a superficial way of her chagrin at having to miss football games and fraternity dances. It is interesting to note that during the early part of her hospital stay she carried with her a large photograph of her father. She would often make attempts to tear it and finally did so partially, but then she was sorry and tried to repair the damage to it she had done. Apparently she represented in this dramatization her indecision and conflict over her father attachment. On December 24, 1930, she was paroled for a year to the custody of her mother, got along well and was discharged on December 24, 1931, as recovered. Diagnosis: manic-depressive; manic type. She completed a six months business course, then had various positions such as an assistant in a dentist's office, a typist for a plumbing company and selling ice cream. This latter job was quite strenuous and she gave it up in July, 1932. She became overactive at that time, went to too many dances and parties, stayed out late at night and had as many as eight boys calling on her at one time.

In September, 1932, she secretly married her grandmother's chauffeur. She went with him to the home of his uncle up-State and during one week there behaved in a very disturbed and irrational manner. She cut off practically all her hair, said the house was wired, that she was full of electricity that was coming from her husband's uncle's room. She thought this uncle was a detective. At the end of a week she was taken back to her grandmother's home where she was excited, distractible and unmanageable. She spent money foolishly and insisted on returning to her husband up-State. There she continued to be irritable, irrational, still complained that the place was wired, said her father was around and could see what she was doing. She made a drawing of his photograph and kept it with her all the time. She made constant sexual demands on her husband. He left her and went to Chicago where he found employment. Soon afterwards he sent for the patient, who joined him. She continued very excited and quarrel-



some, threw away her wedding ring and at the end of a few days insisted on returning to New York. She told the physician who saw her that the house had been wired, that she had been affected by electricity, that she had seen dead people on the railroad tracks and that poison had been put on her food causing a rash to appear on her legs.

She was admitted to Central Islip State Hospital on November 6, 1932. Here she was actively disturbed, resistive, irritable, answered questions abruptly. She admitted the previous facts and events in her life, but offered little or no explanation. She said she had been worried because she could not get along at home. She failed to discuss her previous delusional ideas, saying that she did not know anything about them and that she had not the slightest idea what they meant. Physical examination showed nothing of importance. Blood Wassermann negative. A few days after admission she became very disturbed, showed a typical psychomotor excitement, was elated, noisy, impudent, flighty and distractible. She was interfering, assaulting, boisterous, destructive, denuded herself and at times wet and soiled. For the next four or five months she continued in a very disturbed condition, required constant restraint and sedatives at night. She was dirty in her habits and very fond of spitting. She was boisterous, flighty and elated, very distractible, but at times unproductive. Definite improvement began to take place in May, 1933. She became quiet and demure, did some occupational therapy work but did not talk very much. On October 2, she was paroled for one year to the custody of her mother. She then took care of her sister Dorothy's hat store, enjoyed shopping and going to the movies. She went about with her sister's friends. In December her mother stated that the patient's husband had recently called but that she had told him not to reappear until he could provide for the patient. He was unable to do this and was evidently dependent upon his own people. The patient showed no concern about this and seemed very ready to submit to her mother's will. The patient continued to report regularly, seemed in good health, cheerful, answered questions sensibly, but always showed some lack of spontaneity. She showed no concern at all over her separation from her husband and readily



admitted that she no longer liked him and did not want him to appear. She offered no explanation. On October 2, 1934, she was discharged at the expiration of parole.

#### SUMMARY

Elmira was subjected to the dominance of her grandmother who allowed her very little liberty and restricted her social life. A very strong mutual attachment developed between Elmira and her father. The mental illness of her sister, Dorothy, apparently precipitated Elmira's mental upset. She had a residence in Kings Park State Hospital, admitted there her attachment for her father and dramatized her conflict regarding it by means of his photograph which she carried with her and which she could not decide whether to keep or to destroy. She recovered from her upset, was discharged and then married very suddenly, because as she stated herself her home life was unsatisfactory. Apparently marriage to her, as to her sister, Dorothy, was the means of escape. The presence of typical manic symptoms, elation, flight of ideas, distractibility, overactivity with recovery and the history of a previous attack with recovery of a manic episode indicate the diagnosis of manic-depressive psychosis; manic type. Nevertheless some schizophrenic features were present in addition as evidenced in the ideation. The prognosis seems more uncertain than in the case of Dorothy.

#### CONCLUSION

The cases have been presented of a father and his two daughters who became psychotic at about the same time, all of whom were hospitalized. The essential factors appeared to have been the extreme dominance of the grandmother and the strong attachment between the father and his two daughters. The latter three all showed evidence of guilt regarding this relationship during their psychoses. Both daughters reacted in a similar way in that they married rather suddenly, apparently as a means of escape, both marriages failing.

## THE RESULTS OF TEN YEARS OF MALARIAL THERAPY

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The use of malarial inoculation in the treatment of general paresis is so widespread that it is not necessary here to go into the history of Wagner-Jauregg's discovery and its subsequent development.

Malarial therapy was started at the Marcy division of the Utica State Hospital in July, 1925, by Dr. Cheney, and it has been the writer's privilege to carry on this work since 1928. The following is a recapitulation of the results obtained up to January 1, 1934. This leaves an interval of one year since the last case was treated, a reasonable length of time to observe the results of such treatment.

The report covers 182 male paretics who were routinely admitted to the hospital and who were thought to be in suitable condition for malaria. Many of the cases in the report also received treatment with arsenicals and these too will be considered.

TABLE I. TOTAL RESULTS OF TREATMENT

	Discharge	In hospital	Died	Total	Pct.
Much improved .....	66	..	..	66	36
Improved .....	25	19	10	54	30
Unimproved .....	..	23	39	62	34
	<hr/>	<hr/>	<hr/>	<hr/>	
Total .....	91	42	49	182	
(Per cent) ....	(50)	(23)	(27)		

### *Total Results*

Of the 182 patients reported, 66 were much improved by treatment and all of these were discharged. There were 54 who improved under treatment; of this number, 25 returned home able to do some work, 10 who were considered to be improved were not discharged and subsequently died in the hospital, and 19 remain in the hospital today. Of the remaining 62, who did not show any satisfactory response to treatment, 23 are still in the hospital and 39 are dead.

Worthy of note in Table I are the facts that: 50 per cent of the cases treated have been discharged and only 23 per cent remain in the hospital today; also, that 36 per cent of all cases treated were considered to be much improved at the time of their discharge.

Until very recently the term "remission" was not used, and in this report the few who were recently discharged as remissions have been grouped under the heading of the much improved. A discussion of this point occurs under Table XII.

TABLE II. RESULTS BY YEARS

	1925	1926	1927	1928	1929	1930	1931	1932	1933	Total
Discharged										
Much improved..	3	8	16	11	6	8	7	2	6	67
Improved .....	..	5	6	2	4	5	1	1	..	24
Total .....	3	13	22	13	10	13	8	3	6	91
In hospital										
Improved .....	1	4	3	2	2	3	2	..	2	19
Unimproved ....	2	6	7	2	4	..	1	..	1	23
Total .....	3	10	10	4	6	3	3	..	3	42
Died										
Improved .....	1	1	1	..	2	5	..	..	..	10
Unimproved ....	7	3	8	6	6	3	2	2	2	39
Total .....	8	4	9	6	8	8	2	2	2	49
Total treated ....	14	27	41	23	24	24	13	5	11	182

### *Results by Years*

The number of cases treated was greatest in 1927 and has dropped markedly since this hospital was separately established in July, 1931. Previous to that time all the patients in the Utica State Hospital were sent to the Marcy division for malarial treatment. During the first year of the treatment several patients who had had prolonged hospital residences were treated, which may account for the high percentages of deaths and the low percentage of discharges in 1925. Later most of the patients were inoculated as soon after admission as possible, and it is interesting to note that after 1926 over one-half cases were discharged each year, excepting in 1929, when they fell slightly below one-half.

TABLE III. RESULTS BY DIAGNOSIS

	Cerebral type	Tabetic type
Discharged		
Much improved .....	50	16
Improved .....	23	2
Total .....	73	18
In hospital		
Improved .....	13	6
Unimproved .....	16	7
Total .....	29	13
Died		
Improved .....	8	2
Unimproved .....	28	11
Total .....	36	13
Total each diagnosis .....	138	44

*Results by Diagnosis*

Of the two types specified in the diagnosis the cerebral type had the better prognosis, with 53 per cent discharged and 26 per cent dead in the nine-year period following treatment. The tabetic type showed 41 per cent discharged and 30 per cent dead in the same period.

TABLE IV. REACTION TYPES

	Confused	Depressed	Manic	Schizoid	Simple dementia
Discharged					
Much improved .....	18	13	22	6	7
Improved .....	5	7	7	5	1
Total .....	23	20	29	11	8
(Per cent) .....	(82)	(67)	(60)	(32)	(20)
In hospital					
Improved .....	1	2	4	6	5
Unimproved .....	1	..	2	9	11
Total .....	2	2	6	15	16
(Per cent) .....	(7)	(6)	(13)	(44)	(40)
Died					
Improved .....	..	1	2	3	4
Unimproved .....	3	7	11	5	13
Total .....	3	8	13	8	17
(Per cent) .....	(11)	(27)	(27)	(24)	(40)
Total treated in each reaction type .....	28	30	48	34	42

*Reaction Types*

Table IV reveals that the reaction type had some bearing on the prognosis. The most favorable result occurred in the confused type, in which 23 of the 28 cases, or 82 per cent, were discharged. The depressed showed the next most favorable result with 20 out of 30, or 67 per cent, discharged. The schizoid and simple dementia had the poorest result, with only 32 per cent and 20 per cent discharged, in the order named. It is also noteworthy that the latter group, in this series, had not only the fewest discharged but the greatest number of deaths.

The confused type of reaction in this series indicates patients who were admitted in a mild delirium. This was usually of rather short duration and characterized by bewilderment, confusion, untidiness and complete disorientation. Both visual and auditory hallucinations were frequent. Delusions were rare but mildly expansive ideas were sometimes expressed. As a rule the patients improved promptly and left the hospital within a short time after malaria treatment was completed.

TABLE V. AGE GROUPING

	20-30 years	30-40 years	40-50 years	Over 50 years
Discharged				
Much improved .....	6	34	17	9
Improved .....	4	10	10	1
Total .....	10	44	27	10
(Per cent) .....	(72)	(53)	(44)	(42)
In hospital				
Improved .....	1	10	6	2
Unimproved .....	2	10	9	2
Total .....	3	20	15	4
(Per cent) .....	(21)	(24)	(25)	(16)
Died				
Improved .....	..	1	6	3
Unimproved .....	1	18	13	7
Total .....	1	19	19	10
(Per cent) .....	(7)	(23)	(31)	(42)
Total treated in each age group .....	14	83	61	24

*Age Grouping*

As would be expected from the character of the disease and the long period between infection and onset of mental symptoms, the majority of the cases fell in the age groups between 30 and 50. The results of treatment were more favorable with the younger men. Below 40 years of age more than half of them were discharged. Over 40 years of age less than half of them recovered sufficiently to leave the hospital. The percentage of deaths increased with age.

*Race*

There were not enough of each race in this series to permit worthwhile conclusions being drawn. Furthermore, nearly half were recorded as of mixed race.

TABLE VI. DURATION OF INFECTION

	1-10 years	10-15 years	15-20 years	20-30 years	Over 30 years	Unknown
Discharged						
Much improved .....	3	13	10	9	1	30
Improved .....	1	6	3	5	1	9
Total .....	4	19	13	14	2	39
(Per cent) .....	(50)	(68)	(57)	(61)	(40)	(41)
In hospital						
Improved .....	..	4	2	1	..	12
Unimproved .....	..	1	2	..	1	19
Total .....	..	5	4	1	1	31
(Per cent) .....		(18)	(17)	(4)	(20)	(33)
Died						
Improved .....	1	..	1	3	..	5
Unimproved .....	3	4	5	5	2	20
Total .....	4	4	6	8	2	25
(Per cent) .....	(50)	(14)	(26)	(35)	(40)	(26)
Total treated in each class....	8	28	23	23	5	95

*Duration of Infection*

It is difficult to estimate what effect the length of the prodromal period had upon the prognosis, for in the majority of cases it is impossible to ascertain the date of infection. Many of the patients had been unaware of infection. Others were in such mental condi-



tion that they were unable to give reliable information and it was seldom that members of the family could be of assistance to us. In over half the cases in this series the duration of infection is unknown.

TABLE VII. DURATION OF SYMPTOMS

	Less than 1 month	1 month to 1 year	1 year to 2 years	2 years to 5 years	Over 5 years
Discharged					
Much improved .....	13	23	13	12	5
Improved .....	3	7	4	7	4
Total .....	20	30	17	19	9
(Per cent) .....	(59)	(57)	(49)	(41)	(43)
In hospital					
Improved .....	3	6	4	5	1
Unimproved .....	4	4	6	5	4
Total .....	7	10	10	10	5
(Per cent) .....	(26)	(19)	(28)	(22)	(24)
Died					
Improved .....	2	5	1	15	7
Unimproved .....	2	8	7	2	..
Total .....	4	13	8	17	7
(Per cent) .....	(15)	(24)	(23)	(37)	(33)

### *Duration of Symptoms*

Information regarding the duration of symptoms before admission was often very inadequate. Many times only the development of anti-social traits lead to commitment, whereas changes in personality may have developed long before and had not been recognized as evidence of mental disorder. From the information available, the psychoses of less than one year duration presented the best outlook for discharge—58 per cent. Of the psychoses over one year in duration, only 44 per cent were permitted to leave the hospital.

TABLE VIII. TREATMENT BEFORE ADMISSION

	Had treatment	Had no treatment
Discharged		
Much improved .....	45	21
Improved .....	12	13
Total .....	57	34
(Per cent) .....	(56)	(42)

	Had treatment	Had no treatment
In hospital		
Improved .....	7	12
Unimproved .....	11	12
	—	—
Total .....	18	24
(Per cent) .....	(18)	(30)
Died		
Improved .....	6	4
Unimproved .....	21	19
	—	—
Total .....	27	23
(Per cent) .....	(26)	(28)
Total .....	102	80

### *Treatment Before Admission*

In the group who had treatment before admission to the hospital, the information was difficult to obtain and of questionable value. However, some of these (102 patients) had received some treatment, varying from one dose to several years of treatment with various preparations, and, even though this treatment did not prevent a psychosis, it seemed to have been of some benefit, in that the percentage of discharge was greater in this group than in the group having no previous treatment. (56 per cent, compared with 42 per cent.)

### *Results of Treatment in Hospital*

Of those patients who were treated in the hospital there is much more dependable information. They were divided into four groups: (1) Malaria only, (2) other treatment followed by malaria, (3) malaria followed by other treatment, and (4) malaria both preceded and followed by other treatment.

There was a further subdivision of each of the last three main groups, as follows: Little treatment (less than 10 doses), moderate treatment (10 to 60 doses) and much treatment (over 60 doses). The number of doses, of course, refers to tryparsamide, mercury or bismuth, alone or combined. Of the last group, some patients received more than 160 doses. In this analysis, treatment before admission is disregarded.

*Malaria only.* Of 65 treated, 35, or 54 per cent, were discharged, 5 remained in the hospital and 25 died within the nine-year period studied. Of this group, 23 have had no other treatment since their infection, so far as can be determined. This comprises the largest group of discharges of the four "treatment" groups.

*Other treatment followed by malaria.* This group shows the next largest percentage of discharges, 40 out of 76, or 52 per cent. Twenty-two remained in the hospital and 14 died. The largest number of discharges had a moderate amount of treatment.

*Malaria followed by other treatment.* In this group the percentage of discharges is smaller, with 10 out of 23 patients, showing only 43 per cent discharged. Again, the moderately treated group is the largest.

*Malaria both preceded and followed by other treatment.* Here the percentage of discharges is the smallest of any of the groups—6 of 18, or 33 per cent.

In considering the results of treatment, it must be remembered that, after all, the patient's mental condition determined to a large extent how much treatment was given in the hospital. A certain number of patients cleared up promptly and left the hospital soon after malaria treatment. Another group did not clear up so rapidly, and were given further treatment. Still another group responded slowly and only after protracted treatment. Some did not respond at all. This explains why the group having the most treatment had the poorest results. Many of those who had other treatment prior to malaria and not a few of those who were treated before and after malaria were in the hospital on chemical treatment a number of years before malaria was introduced. They were then cases of long standing and poor prognosis.

TABLE IX. SPINAL SEROLOGY

Discharged	Cleared	Improved	No change	Worse	Incomplete
Much improved .....	19	22	13	6	6
Improved .....	8	12	4	1	..
Total .....	27	34	17	7	6
(Per cent) .....	(48)	(47)	(89)	(88)	(67)

In hospital	Cleared	Improved	No change	Worse	Incomplete
Improved .....	7	10	..	..	2
Unimproved .....	11	8	2	1	1
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total .....	18	18	2	1	3
(Per cent) ..	(32)	(25)	(11)	(12)	(22)
Died					
Improved .....	3	7	..	..	..
Unimproved .....	8	13	..	..	18
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
Total .....	11	20	..	..	18
(Per cent) .....	(20)	(28)			(11)

### *Spinal Fluid Serology*

In Table IX it will be seen that in 27 of the 182 cases treated, the serological reports are incomplete. This is due to several factors: death occurring before a second spinal tap could be made, voluntary patients leaving the hospital soon after treatment and, in three cases, spinal deformities which made it almost impossible to secure a specimen.

Of the 155 cases in which further examinations were made, the Wassermann reaction cleared in 56, or 38 per cent, and improved in 72, or 46 per cent. Further study, however, revealed that less than half of each of these groups were discharged; thus, taken individually, improvement in Wassermann reaction cannot be said to be of much prognostic value; indeed, the reverse seems to be true in this group. The majority of those whose serology was worse following treatment were discharged.

In 19 cases the serology showed no change, yet 17 of these were discharged, only 2 have remained in the hospital and none have died.

Strangely enough, seven of the eight patients whose serology was reported worse following treatment have been discharged and of these seven, six are recorded much improved.

The cell count in nearly all cases treated with malaria declined rather promptly to less than 10 per cu. mm., so far as the information is recorded.

TABLE X. DEATH FOLLOWING TREATMENT

	Less than 2 months	2 months to 1 year	1-5 years	Over 5 years
Improved .....	..	2	7	1
Unimproved .....	17	8	7	7
	—	—	—	—
Total .....	17	10	14	8

*Deaths Following Treatment*

In considering the deaths, the arrangement in Table X differs somewhat from previous tables. Here the deaths which occurred in less than two months following inoculation have been indicated separately. It is believed that two months is ample time to allow for deaths which might be attributed in some way to malaria. In this interval, 17 deaths occurred, representing only 9 per cent of the total group of 182 patients.

*Age at Death*

A study of the ages at death revealed that only one of the 14 cases shown in Table V to be in the 20-30 years group died as a result of treatment with malaria. The largest percentage of deaths occurred between the 30- and 40-year limits (19 out of 83).

*Length of Hospital Residence*

Of the 182 patients treated, 91, or 50 per cent, were discharged within the three years following treatment; in fact 71 of these left the hospital in less than six months.

Of the remaining 91 patients, 49 died during the nine-year period. This leaves only 42 patients, or 23 per cent, of the entire number treated actually in the hospital today. Nineteen of these are usefully employed about the institution.

TABLE XI. DISCHARGES LOCATED—PERIOD SINCE TREATMENT

	1-2 years	2-3 years	3-4 years	4-5 years	5-6 years	6-7 years	7-8 years	8-9 years	Over 9 years	Total	Per cent
Remission .....	6	1	3	4	8	9	10	8	1	50	70
Much improved .....	2	1	1	1	1	2	2	2	0	12	17
Improved .....	0	1	1	0	2	0	2	3	0	9	13
Total .....	8	3	5	5	11	11	14	13	1	71	

*Period Since Treatment*

In a recent survey of 91 patients who were discharged, 71, or 78 per cent, were located. Of this number, 50, or 70 per cent, remain at the same level of economic adjustment as previous to hospitalization and are, therefore, considered as remissions. Twelve, or 17 per cent, are adjusting at a lower level, but are able to maintain themselves and are, therefore, classified as much improved. Nine, or 13 per cent, are unable to support themselves, but are able to get along outside of the hospital, and are thus considered improved.

Thirty-three has been treated more or less regularly and 38 have not been treated at all. Six of this number have relapsed since discharge and seven have died, three suicides, one accidental death, two deaths from a heart disease and one unascertained.

## SUMMARY

Frederick Peterson stated in 1903 that he never knew a paretic to recover and that the average duration of life was three to five years. By modern methods of treatment more than half of the paretics admitted are out of the hospital in three years and the majority of these in less than six months. This is an impressive picture of the advances in the treatment of this disease since malaria therapy was introduced.



# HEREDITARY AND ENVIRONMENTAL FACTORS IN THE CAUSATION OF DEMENTIA PRAECOX AND MANIC-DEPRESSIVE PSYCHOSES

BY

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## CHAPTER V

### *Environmental Factors in Manic-Depressive Psychoses*

#### GENERAL CONSIDERATIONS

The causes of mental disease have been for many years the subject of comprehensive research and elaborate speculation. Much has been learned, and more conjectured. The need of further study of certain phases of the subject is conceded by all psychiatrists. Our review of hereditary factors as set forth in previous chapters of this series indicates how little is definitely known in that branch of the subject. Environmental and somatic etiological factors are in the main easier to observe and the effects of many of them are now well known. The field, however, is so extensive and contains so many bewildering trails that research therein must be continued for many years.

Among the causal factors of mental disease other than heredity that may be designated as known, at least in part, are included the following classes:

1. Traumata that cause injury to brain tissue, or seriously interfere with the normal functioning of the brain or other parts of the body, or cause emotional disorders. Trauma may be a primary cause or may serve as a precipitating or contributory cause. Injuries at birth frequently result in mental defect but may also be factors in the later development of mental disease.

2. Infectious diseases. These may be placed in two groups: (a) Those that cause destruction of brain tissue or interfere with cerebral circulation, such as syphilis and epidemic encephalitis, and (b) those that generate poisons within the body, such as influenza and scarlet fever.

3. Alcohol, drugs, gases, metals and other toxins. These poisons, when taken in the body, operate in various ways to cause

excitement, depression, or delirium, or may give rise to delusions, hallucinations, etc.

4. Arteriosclerosis and other disturbances of circulation. These abnormal conditions frequently result in hemorrhages or softening of the brain and thereby cause paralysis and loss of mental function. They are not primary but are the result of various influences known only in part.

5. Senile and involutional changes and other conditions associated with old age or the involutional period. Here we have to do with organic and tissue changes with more or less serious loss or disturbance in mental functioning.

6. Brain tumors and other neoplasms. These may injure or destroy brain tissue or by compression interfere with the normal functioning of the brain.

7. Other brain or nervous diseases. In this group are included organic nervous disorders such as multiple sclerosis, paralysis agitans, etc., which are not included in the classes previously mentioned. Fortunately these diseases are comparatively rare.

8. Convulsive disorders. These may be either symptomatic or idiopathic. Their effect on the mind may be transitory or more or less permanent. The origin and nature of these secondary causes of mental disease are but partially known.

9. Somatic diseases other than those previously mentioned. These include diseases of the digestive system, genito-urinary system, ductless glands and other organs. These diseases operate by causing auto-intoxication, disturbances of metabolism, malnutrition, exhaustion, etc.

10. Pregnancy, childbirth and lactation. These normal functions may give rise to toxic conditions, exhaustion, etc., and precipitate abnormal mental states.

11. Physiological and mental changes associated with puberty, menstruation, menopause, etc. These changes whether normal or abnormal demand adjustments that in many persons give rise to mental conflicts of a serious nature.

The foregoing list, while not complete, comprises most of the physical and organic factors that are known to be primary or con-

tributory factors in the development of mental disease. When we leave these tangible and more or less definite etiological factors and enter the psychogenic field we must proceed with caution. Most disorders of the physical organism can be recognized by a competent physician and the intensity of many of them can be measured by instruments of precision. Not so, with ordinary mental traumatism or conflicts. These frequently pass by unheeded and their significance with respect to the mental health or disease of the individual may never be known. Certain personal or family crises, however, at times produce a mental shock that the individual is unable to withstand. Likewise the individual may be overcome by situations involving great distress or danger or by mental conflicts for which he can find no solution. The definite outstanding psychogenic factors in the causation of mental disease include the following:

1. Death of a close friend or relative.
2. Loss of position or employment.
3. Financial loss.
4. Disappointment in love.
5. Frustrations in pursuit of a goal.
6. Loss of social esteem.
7. Exposure to danger.

These events and situations are of significance only as they arouse emotions of anxiety, sorrow, fear, hatred, or other mental conflicts. At times, the connection between cause and effect in these situations is very close; at other times, the onset of mental disease may be deferred for a considerable period; the greater the lapse of time, the less certain the causal relation.

Aside from these crises which fortunately are not frequent in the life of the average person, the influence of the every-day environment must be considered. It is a matter of common observation that conditions in the environment may be either favorable or unfavorable for the development, well-being and happiness of the individual.

A favorable environment comprises most if not all of the following elements:

1. Facilities made possible by modern science for complete sanitary and hygienic living.
2. Opportunity for normal, agreeable occupation that affords an income adequate for the maintenance of the individual and his dependent relatives.
3. Opportunity for wholesome, pleasant recreation.
4. Opportunity for congenial companionship.
5. Opportunity for self-development and self-expression.
6. Opportunity for marriage, establishment of a home and rearing of a family.
7. Opportunity for participation as an independent unit in social, political and religious organizations.
8. Opportunity to obtain expert aid in case of illness or accident.
9. Opportunity to procure things needed for adequate comfort and sustenance.

An unfavorable environment is one that affords an individual but few of the opportunities or advantages above enumerated. Among the conditions generally considered as unfavorable environment are the following:

1. The slums of cities.
2. The wretched hovels that pass for homes in some rural communities.
3. Noisy, crowded streets of cities.
4. Occupations involving danger or causing eyestrain or requiring intense application for prolonged periods.
5. Dissension in home, factory, workshop or office.
6. Occupations that afford no opportunity for advancement or for the recognition of meritorious work.
7. Occupations that involve loss of social esteem.
8. Prolonged association with physically or mentally ill relatives.
9. Situations in which the individual finds himself overburdened with work or debt or hampered with oppressive or obnoxious alliances.

The individual is continually affected by his environment. Under ordinary circumstances the person who is compelled to live or work in an unfavorable environment will accept the situation and adjust to it as well as he can. He may develop an indifferent attitude or otherwise build up resistance to the distasteful elements surrounding him. He may be able to improve conditions so that the environment will present a more agreeable aspect. If he is powerless to adjust or to better the situation, he may break loose and seek a more congenial abiding or working place. He may, however, react to a troublesome environment by fretting, worrying, finding fault, seeking pity or by other ineffectual behavior. When such reactions occur an unhealthy mental state is already in evidence.

Individuals vary widely in their susceptibility to mental disease and in their ability to adjust to unfavorable environmental influences. The differences are believed to be due to many factors, including heredity, sex, race, habits, training, physical condition, etc. It is also known that a person may be more vulnerable at one time than at another. Resistance to both mental and physical disease is lessened by fatigue, loss of sleep, lack of food and water, excitement, etc. At every period of life each individual has his peculiar limitations. His strength, his intellectual and emotional capacity and his physical and mental energy permit him to reach certain limits in safety. If he ignores these limits and attempts to go beyond them, failure or disaster results. Likewise in meeting difficulties or accidents or encountering unusual stresses, his stamina and his resistance afford him protection in certain measure. If the stresses become too great, the individual must yield or perish.

*Multiple Causes.* Mental disease may be precipitated by a single environmental cause or by several causes operating together. Although syphilis is the primary cause of general paresis, the onset of mental disorder in the infected person may be hastened by excessive use of alcohol or by accident or other environmental factors. In like manner physical illness may occur along with severe mental stress, the joint effects resulting in the breakdown of the individual. In many cases the operation of joint causes is not so evident. Mental stresses are frequently unobserved and incidents

that mean little to the observer may mean much to an already overburdened individual. It is a practically impossible task to analyze the various mental stresses affecting an individual and to determine the proper weight to be given to each as causing the onset of mental disease. It is possible, however, to study closely a large number of cases and to learn from their histories the factors which might reasonably be concerned in the development of the mental disease of each individual.

In the analysis of the environmental factors in the causation of dementia præcox and manic-depressive psychoses which will follow, an attempt is made to show the prevalence of various types of environment in the history of these cases. Although the histories studied have many things in common, no two histories are alike. Control studies cannot be made, as it would be impossible to select cases from the community that would present histories closely comparable with those of our patients. From the very nature of the case no positive conclusions can be drawn. It is possible, however, to derive a general view of the environmental situation leading up to the development of these mental disorders.

#### CAUSES OF MANIC-DEPRESSIVE PSYCHOSES

No single primary cause of manic-depressive psychoses is known. We have shown in preceding chapters that the disorder appears more frequently in some stocks than in others, which is suggestive of the presence of inherited factors. This accords with the opinions of many textbook writers. However, the observed frequencies of manic-depressive psychoses in the several generations cannot be explained adequately on the basis of known biological laws. It has long been observed that these psychoses are more prevalent among women than among men. This would suggest either sex-linked inheritance or sex-related environmental stresses. The latter seems the more probable, as these psychoses are closely related in many women patients to the sex life, including the menstrual cycle, marriage, pregnancy and childbirth.

There have been attempts to explain this disorder on a physical basis. Henderson and Gillespie summarize the views of Kraepelin, for example, according to whom patients with this disease suffer



from disorders of metabolism. The latter is evidenced in manic cases by the heightened color of the skin, luxuriant growth of hair, and elastic, vigorous movements; in depressed cases by paleness, wrinkled skin, dull eyes, etc. It is not clear, however, whether any systematic attempt has been made to determine whether the physical states are antecedent to or subsequent to the onset of the psychosis. Another possibility would make both the physical and mental states the consequence of a third set of variables. A more modern approach is the effort to correlate mental disease with physical type. This is the viewpoint of Kretschmer, who associates temperament with type of body structure, and assigns the manic-depressive to the pyknic type of constitution. This concept, which is not of universal application, appears purely static, and does not explain the functional relation between physique and temperament, assuming that such a relationship really exists. On the other hand, we may assume that both physique and temperament are but different aspects of the nature of the organism as a whole. Such a view takes us back again to the concept of constitution and heredity as determining influences in the causation of a mental disorder.

Heredity, however, cannot be a complete answer to the question of the origin of a mental disorder. The onset of the disease is not a physiological phenomenon with a subsequently determinate course at specific periods in life. There is no fatality associated with the transmission of mental disease such that an individual with a heavily tainted ancestry must necessarily develop a mental disorder. On the other hand, there is no assurance that an individual with a sound inheritance will not develop a mental disease. We may say that a tainted heredity furnishes a fertile ground, which, in association with appropriate environmental stimuli, may give rise to a mental disorder. Pursuing the analogy further, we may say that even fertile soil and sound seed are not sufficient in themselves to assure healthy development, for subsequent influences may determine the course of growth for good or ill. Thus heredity and constitution, in some cases at least, may be regarded as predisposing factors in the etiology of manic-depressive psychoses. But they cannot be all-sufficient causes. In addition to the

predisposing elements there must be some preceptitating factors. In the absence of any knowledge of a specific pathology in connection with the causation of the manic-depressive psychoses, we must examine the environmental history of the patient in order to discover precipitating factors.

Since mental life is not clearly discernible to the observer, there will be cases in which the precipitating factors, mental or social, may not be apparent. It is necessary, therefore, to start without any presuppositions, but to examine with as much detail as possible the environmental history of the patients from childhood to the outbreak of the disease. The succeeding sections will be devoted to such an analysis, and are based upon the specially prepared environmental histories of 155 patients with manic-depressive psychoses received at the Utica State Hospital.

#### ANALYSIS OF DATA DERIVED FROM CASE STUDIES

The environmental history of each patient is given in detail in the several sections of the schedule employed in the field investigations. Part II of the schedule refers to the economic and social history of the parents during the childhood of the patient. The economic condition was described as dependent, marginal, or comfortable. The economic status of the family was defined still further through a description of the occupation of the father at the time of birth of the patient, and during the patient's childhood. The social life of the parents was described in accordance with their activity in church, lodges, clubs, or other social organizations.

The preceding descriptions were couched in rather broad terms. Part V of the schedule, however, which is devoted to the patient's early environment, is specific and detailed. The environmental factors are classified under the following headings:

1. Were both parents living at home during the patient's childhood?
2. The composition of the household, and the relationship to the patient.

3. The extent to which the patient came under the care of a step-father, or step-mother.
4. The extent to which the patient came under the care of foster parents.
5. The extent to which the patient came under the care of grandparents.
6. How long did the patient remain under parental care?
7. The presence of dissension in the home during the childhood of the patient.
8. The relation between the patient and parents.
9. The relations between patient and brothers and sisters.
10. The physical condition of the patient's early home.
11. The character of the neighborhood.
12. The character of the community.
13. Institutional care (if any) of the patient during childhood.

Further particulars concerning the developmental and social history of the patient are given in section VII of the schedule. The subjects included are as follows:

1. The physical condition and development of patient during the first five years of life.
2. The childhood activities of the patient.
3. The attitude during the pre-adolescent period toward play-mates of own and opposite sex.
4. The adolescent activities of the patient.
5. The patient's attitude during adolescence toward associates of own and opposite sex.
6. The school record of the patient.
7. The attitude of the patient toward school.
8. Important events in the patient's life with respect to health.
9. Record of delinquency or crime.
10. Alcoholic or drug habits.
11. Occupational record of the patient.
12. The patient's attitude towards employers and fellow employees.

13. Recreation, use of leisure, avocations of patient.
14. The sex record of the patient.
15. The marital record of the patient.
16. His religious habits and attitudes.
17. Any deviations from normal growth or development.
18. A more detailed description of early home or school situations having probable effects on significant emotional habits, personality deviations, and other manifestations.

The task of appraising the environmental factors in childhood is beset with two major difficulties. The first is that of establishing a causative link between some event or circumstance in early life and the outbreak of a mental disorder many years later. It is seldom possible, in the analysis of our histories, to establish any psychological mechanism, Freudian or otherwise, by means of which a trauma in childhood can be traced to a later mental breakdown. In the absence of such a correspondence of presumable cause and effect, we must rely upon the establishment of significant differences between phenomena which are characteristic of the patients, in contrast with those of a standard or normal population: for example, the general population. Unfortunately, with respect to the most significant of environmental factors, such norms are almost completely lacking, and hence the significance of many of the environmental factors cannot be assessed. This is especially true of those factors which operate indirectly, or whose effects cannot be perceived immediately. We must resign ourselves, therefore, to the necessity of presenting many of the environmental facts in bald outline, without attempting to establish etiological relationships.

#### ECONOMIC CONDITION OF THE PARENTS DURING THE CHILDHOOD OF THE PATIENT

We shall first consider the economic condition of the parents during the patient's childhood. The economic condition is defined as dependent, marginal or comfortable. By dependent is meant, lack-

ing in the necessities of life or receiving aid from public funds or persons outside the immediate family. By marginal is meant, living on earnings but accumulating little or nothing; being on the margin between self-support and dependency. By comfortable is meant, having accumulated resources sufficient to maintain self and family for at least four months.

Of the 155 families only one was described as being in dependent circumstances during the childhood of the patient. Those regarded as marginal and comfortable totaled 99 and 55, respectively. Of the families of the male patients 42 were described as marginal and 18 as comfortable. Among the families of the female patients, 1 was described as dependent, 57 were considered marginal and 37 comfortable, but it is not clear whether the sex differences are significant. Both groups, however, vary markedly from the economic status of all first admissions to the New York civil State hospitals in 1930. Of the latter, 11.4 per cent were described as dependent, and 9.5 per cent, as comfortable, compared with 0.6 and 35.5 per cent, respectively, among our group of manic-depressive patients. It would appear therefore that the latter group belonged to a higher economic status than the usual run of patients. No comparison with the general population is possible in view of the absence of comparable statistics.

#### SOCIAL LIFE OF THE PARENTS DURING THE CHILDHOOD OF THE PATIENT

Much of the child's personality development is dependent upon the opportunities for social contacts offered him through the home. The atmosphere of the home may be wholesome and sympathetic, or it may be depressive or even oppressive. The expression of social sentiments is influenced furthermore by opportunities for contact with companions of the same age, and also by the attitude of children towards the older people who frequent their homes and mingle with the parents. Consequently it is important to ascertain the kind of social life indulged in by the parents. The following table summarizes the social life of the parents of the patients.

TABLE 1. SOCIAL LIFE OF PARENTS OF MANIC-DEPRESSIVE PATIENTS DURING THE CHILDHOOD OF THE PATIENTS

	Parents of male patients		Parents of female patients	
	Fathers	Mothers	Fathers	Mothers
No social life other than with immediate family and relatives.....	16	24	36	53
Social life with friends and neighbors..	19	17	29	23
Social life connected with church, other than formal attendance .....	9	14	6	15
Member of social organizations .....	12	2	18	..
Parent died or deserted .....	3	3	4	3
A degenerate family .....	..	..	1	1
Unknown .....	1	..	1	..
Total .....	60	60	95	95

The classifications are necessarily broad, but the relations and attitude indicated by the titles may be made clearer by reference to some of the following descriptions.

"The patient's father did not belong to any clubs. He is said to be of a quiet, even disposition. His whole interest is in his home and family. Patient's mother did not belong to any clubs. She is said to be of a quiet, even disposition when things go her way, but unstable when they do not. She is also a home woman."

"Patient's father had no time for social life, as he was kept busy in the butcher shop in England, and in the laundry in Utica. Patient's mother helped patient's father in the laundry and had no time for social life."

"Patient's father had few social activities. He spent most of his leisure time at home, where he helped his wife to care for their family. He was not active in church. Patient's mother had few social activities. She devoted most of her time to the care of the home and family, but she had some social intercourse with neighbors. She attended church regularly, but belonged to no other social organizations."

"Father of patient a jolly man, full of fun, and had many friends. Entertained his friends in his home and visited them in their homes. The social life common to any rural community was enjoyed by the parents of the patient. Attended church when it was possible. Hard-working man with not much spare time. Social



life of mother common to any rural community. Attended church when possible. Enjoyed entertaining her friends and visiting in their homes."

"Patient's father was an active member of the Masonic lodge and has been a senior warden in church for years. Mother unsociable for many years and seemed to live within herself. She attended church, but took no active part."

"Patient's father never cared for amusements. He preferred his home. He was fond of home music, reading and company. Patient's mother was of a quiet, but very sociable make-up. She liked to go to movies, and was unusually fond of social gatherings."

It may be noted that 16 of the fathers and 24 of the mothers of the 60 male patients had no social life other than that arising from contact with the immediate family and close relatives. Social life with friends and neighbors was carried on with varying degrees of intimacy by 19 fathers and 17 mothers. Church activities, other than formal attendance, were indulged in by 14 mothers, but by only 9 fathers. Of the 60 fathers, however, 12 were members of social organizations, as contrasted with only 2 mothers. More significance however must be attached to the combinations of social attitudes among the parents. Thus in 12 of the 60 families there was no social life of a wider bound than that associated with the members of the immediate family. In 12 cases the social life included contacts with friends and neighbors. In 8 cases both parents assisted in the social activities of the church or other social organizations. In all, there were 20 cases in which it may be said that outside contacts and activities were encouraged by both parents.

In the case of the female patients, 36 of the 95 fathers, and 53 of the mothers had no outside social life. Intercourse with friends and neighbors was attributed to 29 fathers and 23 mothers. As in the case of the families of the male patients, mothers predominated in church activities, fathers in contact with other social organizations. It appears noteworthy that in 30 cases both parents had no social life which included people outside of the family circle. In only 20 cases were both parents interested in association with neighbors or with the social life of the church.

CHANGES IN SOCIAL LIFE OF THE PARENTS DURING THE CHILDHOOD OF  
THE PATIENT

Changes in the family situation affect the personality of the members of the family, especially when the change is abrupt, and the contrast is of a severe degree. However there is little evidence of such sudden transitions in the histories of our patients. In the case of the 60 male patients, no change could be detected in the social life of 40 families. Minor changes, such as moving from one city to another, or from one country to another were reported in several instances, but the stimulus appeared inadequate to explain any alterations in personality traits. In several instances, however, there were changes of a more severe nature. Thus one patient had to leave school and go to work at the age of 16, because of an accident to his father. Because of climatic difficulties, the mother of another patient took him to Italy, at the age of 3, while the father remained in the United States. In another case the parents changed religious affiliations from Roman Catholic to Methodist, returned to the former, and then again joined a Protestant church. In another case the father was murdered when the patient was 8 years of age.

In the case of the 95 female patients, there were no changes in the social life of the parents in 71 instances. In the remaining cases, there were changes such as those resulting from a death in the family, the presence of a step-parent, discord between the parents, divorce, etc. In one case the mother was admitted to a State hospital when the patient was 8 years of age. In two cases the father deserted; in one the parents were divorced, and in two cases they separated. In another case the parents grew antagonistic to each other. A further discussion will be found in the succeeding section.

WERE BOTH PARENTS LIVING AT HOME DURING PATIENT'S  
CHILDHOOD?

It is recognized that the development of a wholesome personality requires the attention of both parents during the formative years of childhood. In the case of the 60 male patients, both parents were continuously at home in 49 cases. Continued contact with the

mother was broken in 5 cases, 3 of these resulting from the mother's death in childbirth. In 2 other instances the patients were aged 11 and 4 years at the time of such death. In 5 cases the mother had lived at home continuously, but association with the father had been broken. Two of these resulted from the death of the father, in each case the patient being 3 years old at the time. In one case the father deserted when the patient was 2 years old. In another case the father emigrated to the United States when the patient was 6 months old, and died 3 years later. In the fifth case the father emigrated to the United States when the patient was 13 years old, and remained away for 3 years. In one family both parents died when the patient was 1 year old.

In the case of the 95 female patients, both parents lived at home continuously during the patient's childhood in 80 instances. There were 15 in which one or both of the parents were away from the home during this period. In 5, the father remained in the home but the mother was absent. In each case the latter resulted from death. Two of these resulted from childbirth. In the remaining cases the patients were aged 2, 8 and 14, respectively, at the time of the mother's death. In 6 cases the mother remained at home, but the father was absent. One of these resulted from a separation when the patient was 3 years of age. In 2 cases the father deserted, one occurring prior to the patient's birth, the other when she was 12 years of age. The father died in 3 cases. In two of these the patient was less than a year old at the time, in the other she was 10 years of age. In 4 cases both parents were removed from the home. In one of these the father died when the patient was 1 year of age; the mother died when the patient was 6. In another case both parents removed to New York City and left the patient with an aunt until she was 7 years of age. In a fourth case the parents were divorced when the patient was 13.

#### COMPOSITION OF HOUSEHOLD DURING PATIENT'S CHILDHOOD

We may next consider the composition of the household during the patient's childhood. The facts are summarized in the following table.

TABLE 2. COMPOSITION OF HOUSEHOLD DURING THE CHILDHOOD OF PATIENTS WITH MANIC-DEPRESSIVE PSYCHOSES

	Males	Females	Total
Both parents at home, no additional members other than patient	2	1	3
Both parents at home, together with siblings .....	44	74	118
Both parents at home, together with siblings and others....	3	5	8
Father at home, mother away, no additional members.....	..	..	..
Father at home, mother away, siblings in home.....	2	3	5
Father at home, mother away, siblings and others in home....	2	3	5
Mother at home, father away, no additional members.....	1	2	3
Mother at home, father away, siblings in home.....	3	2	5
Mother at home, father away, siblings and others in home..	1	2	3
Both parents away, no additional members .....	1	..	1
Both parents away, siblings and others in home .....	1	3	4
Total .....	60	95	155

As might be anticipated the most characteristic type of household was that consisting of parents and children (in addition to the patient). These constituted 118 of the 155 cases. In eight more cases there were others in the household, in addition to the parents and siblings. There were three cases in which there were parents, but no siblings.

#### EXTENT TO WHICH PATIENT CAME UNDER CARE OF STEP-PARENTS

It has been alleged that the presence of step-parents or foster parents in the home often has a deleterious effect upon the personality of children. No support for this can be found in the histories, however. Only two of the male patients had a step-parent (both step-mothers). In one instance the patient was 2 years of age, in the other 14 years of age, at the time of the father's remarriage. Of the 95 females, 1 had a step-father at 3 years of age, and 6 had step-mothers. The latter patients were 2, 10 and 12 years of age at the time the father remarried. The age of remarriage was unknown in one case. Two female patients had step-mothers when 16 years of age.

#### EXTENT TO WHICH PATIENT CAME UNDER CARE OF FOSTER-PARENT

There were two cases of foster parents among the male patients. In one case the patient was taken by an aunt and uncle following the death of the mother. In another case the patient came under

the care of the foster-parent at 11 years of age. None of the female patients had a foster-parent.

#### EXTENT TO WHICH PATIENT CAME UNDER CARE OF GRANDPARENT

There were four cases in which a male patient lived with a grandparent. One was brought to the home of the paternal grandmother at the age of 11 and stayed for three years; he then lived with a maternal grandmother for two years. In the second case the patient lived with his paternal grandparents until he was 13 years of age. In the third case the patient lived with his grandmother from 3 to 5 years of age. In the fourth he lived with his grandparents from 2 to 11 years of age. Of the 95 female patients 4 were under grandparental care at one time or another. In one case the patient lived with a maternal grandparent from the age of 3 to 17. In the second case the patient was with her grandmother from 3 to 6 years of age. In a third case the patient and her mother both lived with the maternal grandparents after the death of the father. In the fourth case the patient was under the care of the paternal grandmother from 1 to 5 years of age. There were several additional cases where the grandparents resided in the home of the patient's family. Presumably however the grandparents did not exert any authority in place of that exercised by the parents themselves.

(TO BE CONTINUED)

## A STATISTICAL STUDY OF MENTAL DISEASES AMONG NATIVES OF FOREIGN WHITE PARENTAGE IN NEW YORK STATE

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Several studies have indicated that the foreign-born in New York State have higher 'crude' rates of mental disease than natives of native parentage. These studies have also shown, however, that the rates vary widely among the foreign stocks, and that for some groups of psychoses natives even had higher rates than selected groups of foreign-born.<sup>1,2</sup> In view of such variations it appears desirable to pursue still further the analysis of mental disorders among foreign white stocks. One may obviously ask whether the immediate descendants of these foreign stocks differ from each other with respect to types and frequency of mental diseases, and how they compare with both their foreign-born parents and natives of native parentage. If race were related to mental disorders in a constant manner, we would expect, generally speaking, similar pictures among natives of foreign parentage and their immediate ancestors.

Environmental influences, if they exist, should be evident either in differences in the incidence of mental disorders among the two generations, or in the relative frequency of certain groups of mental disorders. For example, do first admissions with mental disease among natives of foreign parentage show a higher or lower percentage of dementia præcox, when compared with the foreign-born? The problem may be viewed as a study of the effects of adaptation to American modes of living. The second generation is obviously more akin to native Americans in language, education, points of view, and in social adjustment, especially economic. The process of Americanization should result in the second generation of foreign-born having lower rates of mental disease than the foreign-born, and they should approximate to those of the native stock.

In the ensuing sections we shall study mental disorders among five groups of native-born whites of foreign parentage. These groups constitute the following stocks: Italian, German, Irish,



English and Scandinavian. The data were derived from two sources. The statistics of mental disease represent first admissions to all institutions for mental disease in New York State during the fiscal years 1929-1931. The corresponding data for the general populations of similar origin were obtained from the United States Bureau of the Census, through the generous cooperation of Dr. Leon E. Truesdell, chief statistician for population. The groups were defined as follows by the Census Bureau: A man was considered of English origin, for example, if both parents were born in England; or if one parent was born in England, and the other in the United States; or if the father was born in England, irrespective of the nativity of the mother.

Such a classification creates the possibility of confusion from a racial point of view, inasmuch as the mixed groups may consist of parents from diverse stocks. The longer an immigrant group lives in the United States, the greater is the chance of assimilation through mixed marriages. There is little possibility of any serious error of this type in the case of Italians, however, since, according to the U. S. census report on population in 1930, 85.2 per cent of the natives of Italian parentage were derived from unions in which both parents were born in Italy. On the principal of assortative mating, it may be taken for granted that most of the remaining 14.8 per cent represented offspring of an Italian born in Italy and an Italian born in the United States. A similar explanation holds for those of German, Scandinavian and Irish parentage. The only group with the possibility of a serious mixture is the English. According to the census report only 45.6 per cent of natives of English parentage were born of parents both of whom were themselves born in England. Exact statistics are not available for the remaining 54.5 per cent, but it may be taken for granted that many (perhaps the majority) of the mixed marriages represented unions of an English-born parent with an individual of English origin, though born elsewhere. From a racial point of view the probability is high that the group is predominantly English.

A serious hindrance to the completeness of the ensuing discussion, is the absence of an adequate age classification of the native population of foreign parentage. The age groupings employed by

the U. S. Census Bureau are as follows: Under 5 years, 5 to 9 years, 10 to 14 years, 15 to 24 years, 25 to 44 years, 45 to 64 years, and 65 years and over. The significant periods from the viewpoint of mental disease are those beginning with 15 years, and these are so few and the class limits are so wide, that they do not permit adequate comparisons of rates of mental disease among the native and foreign-born with respect to age. As group differences with respect to mental disease are seriously affected by varying age compositions, it will be necessary to estimate corrections for age in a broad manner.

### ITALIANS

There were 769 first admissions to all institutions for mental disease in New York State among native whites of Italian parentage during the three years ended June 30, 1931. Of these, 479, or 62.3 per cent, were males and 290, or 37.7 per cent, females. These first admissions are distributed according to psychoses in Table 1.

TABLE 1. FIRST ADMISSIONS TO ALL HOSPITALS FOR MENTAL DISEASE IN NEW YORK STATE, 1929-1931, AMONG NATIVE WHITES OF ITALIAN PARENTAGE AND FOREIGN WHITES BORN IN ITALY

Psychoses	Number of first admissions		Per cent of total first admissions		Average annual rate per 100,000 population	
	Native whites of Italian parentage	Born in Italy	Native whites of Italian parentage	Born in Italy	Native whites of Italian parentage	Born in Italy
Traumatic .....	5	16	0.7	0.8	0.2	0.8
Senile .....	..	156	..	7.8	..	8.3
With cerebral arteriosclerosis...	4	245	0.5	12.3	0.1	13.0
General paresis .....	70	325	9.1	16.3	2.5	17.2
With cerebral syphilis.....	4	24	0.5	1.2	0.1	1.3
With other brain or nervous dis.	31	30	4.0	1.5	1.1	1.6
Alcoholic.....	9	90	1.2	4.5	0.3	4.8
With other somatic diseases....	13	35	1.7	1.8	0.5	1.9
Manic-depressive .....	137	306	17.8	15.3	4.9	16.2
Involution melancholia .....	1	39	0.1	2.0	*	2.1
Dementia præcox .....	337	532	43.8	26.6	12.2	28.1
Paranoia or paranoic conditions	..	10	..	0.5	..	0.5
Epileptic psychoses.....	33	26	4.3	1.3	1.2	1.4
Psychoneuroses and neuroses...	10	18	1.3	0.9	0.4	1.0
With psychopathic personality..	39	37	5.1	1.9	1.4	2.0
With mental deficiency .....	58	45	7.5	2.3	2.1	2.4
All other psychoses .....	2	8	0.3	0.4	0.1	0.4
Undiagnosed psychoses .....	2	42	0.3	2.1	0.1	2.2
Without psychosis .....	14	13	1.8	0.7	0.5	0.7
Total .....	769	1,997	100.0	100.0	27.8	105.8

\*Less than 0.05 per 100,000.

Of the 769 first admissions, 337, or 43.8 per cent, were cases of dementia præcox, and 137, or 17.8 per cent, were cases of manic-depressive psychoses. No other groups were of corresponding numerical significance, the largest of these, general paresis, including only 9.1 per cent of the total. Compared with foreign-born Italians, there are important differences. Among the latter, the senile psychoses included 7.8 per cent of the total, and psychoses with cerebral arteriosclerosis included 12.3 per cent. Among the native group, on the contrary, there were no seniles, and the arteriosclerotic category included only 0.5 per cent. These contrasts are due to the fact that the two populations differ in age constitution. Italians are recent immigrants and their offspring are still too young to have reached the proper age exposures for these two mental disorders. The upper quartile of natives of Italian parentage, for example, begins at only 21 years, far below the lower limit for senile and arteriosclerotic disorders. The age difference also explains the low incidence of general paresis among natives of Italian parentage. On the other hand, the latter are predominantly among the age levels associated with dementia præcox. Consequently we find that 43.8 per cent of the native first admissions of Italian parentage were included in dementia præcox, compared with only 26.6 per cent of the Italian-born. Other groups of psychoses which appear more frequently among the native first admissions of Italian parentage are: psychoses with other brain diseases, epileptic psychoses, psychoses with psychopathic personality, and psychoses with mental deficiency.

Table 1 also includes average annual rates of first admissions, per 100,000 population among native whites of Italian parentage and foreign-born Italians. The former had a rate of 27.8 for all psychoses. The maximum rate, 12.2, occurred in dementia præcox. Manic-depressive psychoses followed with a rate of 4.9. No other rate was of numerical significance. Foreign whites born in Italy had a considerably higher rate of first admissions, their rate being in excess in the ratio of 3.8 to 1. Among the leading groups of psychoses the rates of the Italian-born were similarly in excess, the highest ratios occurring in the groups of organic psychoses.

Much of the excess is undoubtedly due to the varying age compositions of the two groups. But the difference between the two generations of Italians cannot be explained entirely on such a basis. On the other hand, natives of Italian parentage also have lower rates than natives of native parentage.<sup>3</sup> This, however, can be explained almost entirely on the basis of age, the former group having a more favorable age distribution. Rates of first admissions are shown by broad age intervals in Table 2, and comparisons are afforded between native whites of native parentage, native whites of Italian parentage, and foreign-born Italians.

TABLE 2. NUMBER OF FIRST ADMISSIONS TO ALL INSTITUTIONS FOR MENTAL DISEASE IN NEW YORK STATE, 1929-1931, AMONG NATIVE WHITES OF NATIVE PARENTAGE, NATIVE WHITES OF ITALIAN PARENTAGE, AND FOREIGN-BORN ITALIANS, PER 100,000 OF CORRESPONDING GENERAL POPULATION

Age (years)	Males			Females		
	Native whites of native parentage	Native whites of Italian parentage	Foreign- born white Italians	Native whites of native parentage	Native whites of Italian parentage	Foreign- born white Italians
Under 15 ...	1.7	2.0	....	1.1	1.3	....
15-24 .....	49.8	61.4	73.5	31.3	36.7	52.1
25-44 .....	74.3	102.0	110.8	65.6	66.6	78.7
45-64 .....	99.3	176.6	132.5	78.5	100.7	76.3
65 and over..	211.4	225.2	296.1	152.1	....	233.5

Among males, native whites of Italian parentage had rates that rose from a minimum of 2.0 to a maximum of 225.2. These rates were uniformly in excess of those of native males of native parentage. They were lower, however, than corresponding rates among foreign-born male Italians, except at 45 to 64 years. Among females, natives of Italian parentage had rates that differed insignificantly from those of the native group under 45 years of age, but were in excess at 45 to 64 years. The absence of any cases at 65 years and over among the native females of Italian parentage is probably accidental. Foreign-born Italian females, on the whole, had rates in excess of those of the two native groups.

## GERMANS

During the years 1929-1931 there were 1,693 first admissions to all institutions for mental disease in New York State among native whites of German parentage, of whom 868, or 51.3 per cent, were males, and 825, or 48.7 per cent, females. Germans constitute a relatively old immigrant group, and consequently their offspring are sufficiently advanced in age to include cases of senile and arteriosclerotic mental disorders. The result is that the percentage attributed to dementia præcox, 25.5, though higher than that of any other group of psychoses, is less than the corresponding percentage among first admissions of Italian parentage. Psychoses with cerebral arteriosclerosis included 14.1 per cent of the total, exceeding that of the manic-depressive psychoses. General paresis and alcoholic psychoses showed appreciable totals. The complete distribution according to psychoses is shown in Table 3, which also includes similar data for first admissions born in Germany.

TABLE 3. FIRST ADMISSIONS TO ALL HOSPITALS FOR MENTAL DISEASE IN NEW YORK STATE, 1929-1931, AMONG NATIVE WHITES OF GERMAN PARENTAGE AND FOREIGN WHITES BORN IN GERMANY

Psychoses	Number of first admissions		Per cent of total first admissions		Average annual rate per 100,000 population	
	Native whites of German parentage	Born in Germany	Native whites of German parentage	Born in Germany	Native whites of German parentage	Born in Germany
Traumatic .....	11	10	0.6	0.8	0.5	1.0
Senile .....	131	226	7.7	17.6	6.4	21.6
With cerebral arteriosclerosis...	238	295	14.1	22.9	11.6	28.2
General paresis .....	162	135	9.6	10.5	7.9	12.9
With cerebral syphilis.....	19	10	1.1	0.8	0.9	1.0
With other brain or nervous dis.	24	8	1.4	0.6	1.2	0.8
Alcoholic.....	103	40	6.1	3.1	5.0	3.8
With other somatic diseases....	37	21	2.2	1.6	1.8	2.0
Manic-depressive .....	219	144	12.9	11.2	10.7	13.7
Involution melancholia .....	100	22	5.9	1.7	4.9	2.1
Dementia præcox .....	431	294	25.5	22.9	21.0	28.1
Paranoia or paranoic conditions	19	12	1.1	0.9	0.9	1.1
Epileptic psychoses.....	48	8	2.8	0.6	2.4	0.8
Psychoneuroses and neuroses...	11	8	0.6	0.6	0.5	0.8
With psychopathic personality..	34	13	2.0	1.0	1.7	1.2
With mental deficiency .....	56	12	3.3	0.9	2.7	1.1
All other psychoses .....	15	4	0.9	0.3	0.7	0.4
Undiagnosed psychoses .....	21	18	1.3	1.4	1.0	1.7
Without psychosis .....	14	6	0.8	0.5	0.7	0.6
Total .....	1,693	1,286	100.0	100.0	82.7	122.8

Among the foreign-born Germans, dementia præcox and manic-depressive psychoses included 22.9 and 11.2 per cent, respectively, of the total first admissions. These are in good agreement with the corresponding percentages among the native group. There is also fair agreement with respect to general paresis. The outstanding differences are with respect to psychoses with cerebral arteriosclerosis, which included 22.9 per cent of the foreign group and only 14.1 per cent of the native group, and senile psychoses, which included 17.6 and 7.7 per cent, respectively, of each group. The immigrants had a higher proportion at the advanced ages, a fact which accounts for the latter differences.

Average annual rates of first admission are also shown in Table 3. Native whites of German parentage had a rate of 82.7. Foreign whites born in Germany had a rate in excess of that of natives of German parentage in the ratio of 1.5 to 1. The foreign-born group had rates in especially great excess in the senile psychoses, those with cerebral arteriosclerosis and general paresis. They were also in excess in dementia præcox and manic-depressive psychoses, though to a lesser degree. A surprising contrast occurs in the alcoholic psychoses, in which the native group had a rate of 5.0 compared with only 3.8 among the foreign group.

Natives of German parentage had a higher rate of first admissions than natives of native parentage for all psychoses combined and also for each of the important groups of psychoses.<sup>4</sup> The excess is undoubtedly due in part to age differentials, since natives of German parentage are older than natives of native parentage. But this cannot be the decisive factor as is made evident by the distributions in Table 4.

TABLE 4. NUMBER OF FIRST ADMISSIONS TO ALL INSTITUTIONS FOR MENTAL DISEASE IN NEW YORK STATE, 1929-1931, AMONG NATIVE WHITES OF NATIVE PARENTAGE, NATIVE WHITES OF GERMAN PARENTAGE, AND FOREIGN-BORN GERMANS, PER 100,000 OF CORRESPONDING GENERAL POPULATION

Age (years)	Males			Females		
	Native whites of native parentage	Native whites of German parentage	Foreign- born white Germans	Native whites of native parentage	Native whites of German parentage	Foreign- born white Germans
Under 15.....	1.7	2.0	6.8	1.1	1.0	7.0
15-24 .....	49.8	59.4	80.7	31.3	48.5	50.8
25-44 .....	74.3	73.6	112.1	65.6	77.9	85.4
45-64 .....	99.3	124.6	131.0	78.5	92.2	94.2
65 and over..	211.4	206.1	279.8	152.1	148.4	203.4



Table 4 summarizes rates of first admissions by sex and age for natives of native parentage, natives of German parentage and foreign whites born in Germany. Among males, natives of German parentage had lower rates than the foreign group. On the whole, however, they had higher rates than natives of native parentage. Among females, natives of German parentage had lower rates than the foreign-born Germans. On the whole, they also had higher rates than native females of native parentage, except under 15 years, and over 65 years.

### IRISH

There were 2,307 first admissions to all institutions for mental disease in New York State during 1929-1931 among native whites of Irish parentage, of whom 1,250, or 54.2 per cent, were males, and 1,057, or 45.8 per cent, females. These first admissions are distributed according to psychoses in Table 5.

TABLE 5. FIRST ADMISSIONS TO ALL HOSPITALS FOR MENTAL DISEASE IN NEW YORK STATE, 1929-1931, AMONG NATIVE WHITES OF IRISH PARENTAGE AND FOREIGN WHITES BORN IN IRELAND

Psychoses	Number of first admissions		Per cent of total first admissions		Average annual rate per 100,000 population	
	Native whites of Irish parentage	Born in Ireland	Native whites of Irish parentage	Born in Ireland	Native whites of Irish parentage	Born in Ireland
Traumatic .....	33	45	1.4	2.6	1.7	5.1
Senile .....	244	297	10.6	17.2	12.4	33.8
With cerebral arteriosclerosis...	393	442	17.0	25.6	20.0	50.2
General paresis .....	158	62	6.8	3.6	8.0	7.1
With cerebral syphilis.....	22	8	1.0	0.4	1.1	0.9
With other brain or nervous dis.	20	14	0.9	0.8	1.0	1.6
Alcoholic.....	250	225	10.8	13.1	12.7	25.6
With other somatic diseases....	61	30	2.6	1.8	3.1	3.4
Manic-depressive .....	260	168	11.3	9.8	13.2	19.1
Involution melancholia .....	114	53	4.9	3.1	5.8	6.0
Dementia præcox .....	495	272	21.5	15.8	25.2	30.9
Paranoia or paranoic conditions	29	15	1.3	0.9	1.5	1.7
Epileptic psychoses.....	49	10	2.1	0.6	2.5	1.1
Psychoneuroses and neuroses...	19	8	0.8	0.4	1.0	0.9
With psychopathic personality..	47	14	2.0	0.8	2.4	1.6
With mental deficiency .....	47	15	2.0	0.9	2.4	1.7
All other psychoses .....	11	6	0.5	0.3	0.6	0.7
Undiagnosed psychoses .....	26	30	1.1	1.7	1.3	3.4
Without psychosis .....	29	10	1.3	0.6	1.5	1.1
<b>Total .....</b>	<b>2,307</b>	<b>1,724</b>	<b>100.0</b>	<b>100.0</b>	<b>117.5</b>	<b>196.0</b>

Of the 2,307 first admissions, 495, or 21.5 per cent, were cases of dementia præcox. Psychoses with cerebral arteriosclerosis included 17.0 per cent of the total, and the senile psychoses, with 10.6 per cent, ranked only slightly below the manic-depressive psychoses. This is evidence of the relatively advanced age reached by many Irish of the second generation, consequent upon the long history of Irish emigration to the United States. The alcoholic psychoses also ranked high with 10.8 per cent, and, in fact, ranked second only to dementia præcox among males.

The corresponding distribution of the psychoses among foreign whites born in Ireland is also shown in Table 5.

The percentage of cases attributable to dementia præcox and manic-depressive psychoses differed but little from that of natives of Irish parentage. The principal differences occurred in the senile and arteriosclerotic disorders. It is important to note that general paresis accounted for relatively fewer cases among the foreign-born first admissions. The alcoholic psychoses, however, were relatively more prevalent among the foreign group.

Average annual rates of first admissions for the two populations are also shown in Table 5.

TABLE 6. NUMBER OF FIRST ADMISSIONS TO ALL INSTITUTIONS FOR MENTAL DISEASE IN NEW YORK STATE, 1929-1931, AMONG NATIVE WHITES OF NATIVE PARENTAGE, NATIVE WHITES OF IRISH PARENTAGE, AND FOREIGN-BORN IRISH, PER 100,000 OF CORRESPONDING GENERAL POPULATION

Age (years)	Males			Females		
	Native whites of native parentage	Native whites of Irish parentage	Foreign- born white Irish	Native whites of native parentage	Native whites of Irish parentage	Foreign- born white Irish
Under 15....	1.7	2.6	..	1.1	3.4	..
15-24 .....	49.8	73.2	92.7	31.3	44.7	61.9
25-44 .....	74.3	142.8	130.6	65.6	87.1	122.2
45-64 .....	99.3	187.8	261.8	78.5	144.5	174.2
65 and over..	211.4	319.7	492.9	152.1	266.4	487.1

Native whites of Irish parentage had a rate of 117.5. Those born in Ireland had a rate of 196.0, which was in excess of that of the native group in the ratio of 1.7 to 1. The foreign Irish had higher rates than the natives in every important group of psychoses, except general paresis. In the latter psychosis the natives had

a rate of 8.0, compared with 7.1 among the foreign Irish. Natives of Irish parentage had higher rates than natives of native parentage.<sup>4</sup> The former are older, a fact which partially explains their higher rates.

It is likely, however, that the differences between the native groups and those born in Ireland are fundamental. Table 6, which gives rates of mental disease by broad age groups, shows that the foreign-born Irish had almost uniformly higher rates than the native Irish, though both had rates in excess of those of natives of native parentage.

### ENGLISH

There were 554 first admissions to all institutions for mental disease in New York State during 1929-1931 among native whites of English parentage, of whom 305, or 55.1 per cent, were males, and 249, or 44.9 per cent, females. These first admissions were distributed according to psychoses, as shown in Table 7.

TABLE 7. FIRST ADMISSIONS TO ALL HOSPITALS FOR MENTAL DISEASE IN NEW YORK STATE, 1929-1931, AMONG NATIVE WHITES OF ENGLISH PARENTAGE AND FOREIGN WHITES BORN IN ENGLAND

Psychoses	Number of first admissions		Per cent of total first admissions		Average annual rate per 100,000 population	
	Native whites of English parentage	Born in England	Native whites of English parentage	Born in England	Native whites of English parentage	Born in England
Traumatic .....	4	6	0.7	1.1	0.6	1.4
Senile .....	58	91	10.5	16.9	8.2	20.7
With cerebral arteriosclerosis...	102	126	18.4	23.4	14.4	28.7
General paresis .....	53	49	9.6	9.1	7.4	11.2
With cerebral syphilis.....	5	5	0.9	0.9	0.7	1.1
With other brain or nervous dis.	7	6	1.3	1.1	1.0	1.4
Alcoholic.....	36	19	6.5	3.5	5.1	4.3
With other somatic diseases....	7	8	1.3	1.5	1.0	1.8
Manic-depressive .....	68	54	12.3	10.0	9.6	12.3
Involution melancholia .....	15	23	2.7	4.3	2.1	5.2
Dementia præcox .....	113	92	20.4	17.1	15.9	20.9
Paranoia or paranoic conditions	13	8	2.4	1.5	1.8	1.8
Epileptic psychoses.....	9	8	1.6	1.5	1.3	1.8
Psychoneuroses and neuroses...	10	13	1.8	2.4	1.4	3.0
With psychopathic personality..	14	15	2.5	2.8	2.0	3.4
With mental deficiency .....	18	6	3.3	1.1	2.5	1.4
All other psychoses .....	4	1	0.7	0.2	0.6	0.2
Undiagnosed psychoses .....	6	6	1.1	1.1	0.8	1.4
Without psychosis .....	12	2	2.2	0.4	1.7	0.5
<b>Total .....</b>	<b>554</b>	<b>538</b>	<b>100.0</b>	<b>100.0</b>	<b>78.1</b>	<b>122.4</b>

There were two outstanding categories. Dementia præcox included 113 cases and psychoses with cerebral arteriosclerosis, 102 cases, these representing 20.4 and 18.4 per cent, respectively, of the total. Manic-depressive psychoses, senile psychoses and general paresis followed with percentages of 12.3, 10.5 and 9.6, respectively. These may be compared with the corresponding distribution among foreign whites born in England.

Among the latter the percentages of dementia præcox and manic-depressive psychoses were slightly less than those of natives of English parentage. The former had higher percentages in the senile and arteriosclerotic psychoses. The percentages of general paresis were practically equivalent. Alcoholic psychoses, however, were almost twice as prevalent among the natives of English parentage.

Average annual rates of first admissions are also shown in Table 7.

Natives of English parentage had a rate of 78.1. Foreign whites born in England had a rate of 122.4, which exceeded that of the native group in the ratio of 1.6 to 1. The foreign whites born in England had higher rates in all of the important groups of psychoses, except the alcoholic. In the latter group, native whites of English parentage had a rate of 5.1, compared with a rate of 4.3 among the foreign group.

TABLE 8. NUMBER OF FIRST ADMISSIONS TO ALL INSTITUTIONS FOR MENTAL DISEASE IN NEW YORK STATE, 1929-1931, AMONG NATIVE WHITES OF NATIVE PARENTAGE, NATIVE WHITES OF ENGLISH PARENTAGE, AND FOREIGN-BORN ENGLISH, PER 100,000 OF CORRESPONDING GENERAL POPULATION

Age (years)	Males			Females		
	Native whites of native parentage	Native whites of English parentage	Foreign- born white English	Native whites of native parentage	Native whites of English parentage	Foreign- born white English
Under 15.....	1.7	2.8	..	1.1	..	..
15-24 .....	49.8	52.2	74.2	31.3	33.4	46.3
25-44 .....	74.3	94.1	81.6	65.6	71.6	75.2
45-64 .....	99.3	116.0	129.8	78.5	90.7	121.5
65 and over..	211.4	291.3	354.6	152.1	178.9	274.7

Natives of English parentage had higher rates of first admissions than natives of native parentage.<sup>4</sup> The former, however, are older, a fact which offers a partial explanation of their higher rates. It is probable, however, that age adjustment would not change the final results, as may be seen by an examination of Table 8.

It is evident that native whites of English parentage had lower rates than foreign whites born in England. It is clear, therefore, that the differences noted above must be regarded as significant. Both groups, however, had higher rates than native whites of native parentage.

#### SCANDINAVIAN

Native whites of Scandinavian parentage (Norwegian, Swedish and Danish) provided 169 first admissions to all institutions for mental disease in New York State in 1929-1931, of whom 104, or 61.5 per cent, were males and 65, or 38.5 per cent, females. The distribution of the psychoses in these groups is shown in Table 9.

TABLE 9. FIRST ADMISSIONS TO ALL HOSPITALS FOR MENTAL DISEASE IN NEW YORK STATE, 1929-1931, AMONG NATIVE WHITES OF SCANDINAVIAN PARENTAGE AND FOREIGN WHITES BORN IN NORWAY, SWEDEN AND DENMARK

Psychoses	Number of first admissions		Per cent of total first admissions		Average annual rate per 100,000 population	
	Native whites of Scandinavian parentage	Born in Norway, Sweden and Denmark	Native whites of Scandinavian parentage	Born in Norway, Sweden and Denmark	Native whites of Scandinavian parentage	Born in Norway, Sweden and Denmark
Traumatic .....	4	4	2.4	0.9	1.2	1.1
Senile .....	2	39	1.2	8.8	0.6	10.5
With cerebral arteriosclerosis...	10	74	5.9	16.6	3.0	20.0
General paresis .....	13	59	7.7	13.2	3.9	15.9
With cerebral syphilis.....	2	1	1.2	0.2	0.6	0.3
With other brain or nervous dis.	1	8	0.6	1.8	0.3	2.2
Alcoholic.....	12	29	7.1	6.5	3.6	7.8
With other somatic diseases...	4	10	2.4	2.3	1.2	2.7
Manic-depressive .....	15	57	8.9	12.8	4.6	15.4
Involution melancholia .....	7	18	4.1	4.0	2.1	4.9
Dementia præcox .....	65	118	38.4	26.5	19.7	31.8
Paranoia or paranoic conditions	3	4	1.8	0.9	0.9	1.1
Epileptic psychoses.....	8	2	4.7	0.4	2.4	0.5
Psychoneuroses and neuroses...	6	5	3.6	1.1	1.8	1.3
With psychopathic personality..	3	5	1.8	1.1	0.9	1.3
With mental deficiency .....	9	1	5.3	0.2	2.7	0.3
All other psychoses .....	1	4	0.6	0.9	0.3	1.1
Undiagnosed psychoses .....	1	6	0.6	1.3	0.3	1.6
Without psychosis .....	3	2	1.8	0.4	0.9	0.5
<b>Total .....</b>	<b>169</b>	<b>446</b>	<b>100.0</b>	<b>100.0</b>	<b>51.3</b>	<b>120.4</b>

Dementia præcox included 38.4 per cent of the total first admissions. No other group was of numerical importance. Manic-depressive psychoses, general paresis and alcoholic psychoses represented 8.9, 7.7 and 7.1 per cent, respectively. The corresponding distribution for foreign whites born in Scandinavia is also shown in Table 9.

Among the latter, dementia præcox was the leading category, including 26.5 per cent of the total first admissions. Psychoses with cerebral arteriosclerosis and general paresis followed with 16.6 and 13.2 per cent, respectively, both considerably higher than the corresponding percentages among natives of Scandinavian parentage. This results entirely from age selection, however. A significant contrast appears in connection with the alcoholic psychoses, the native and foreign groups having percentages of 7.1 and 6.5, respectively. This results from a difference among females, the native group having a percentage of 4.6, compared with only 0.6 among the foreign group.

Average annual rates of first admissions are also shown in Table 9.

Native whites of Scandinavian parentage had a rate of 51.3. Foreign-born Scandinavians had a rate of 120.4, which exceeded the rate of the native group in the ratio of 2.3 to 1. The foreign-group had considerably higher rates in most of the important groups of psychoses. An interesting exception occurred in the alcoholic psychoses, where native females of Scandinavian parentage had a rate of 1.8, compared with 0.6 among the foreign-born Scandinavians.

Compared with natives of native parentage, natives of Scandinavian parentage had a lower rate of first admissions. They had higher rates, however, with respect to the alcoholic psychoses and dementia præcox.<sup>4</sup> Since the age distribution of natives of Scandinavian parentage is a favorable one, the latter differences must be regarded as significant.

Rates of first admissions are shown by broad age groups in Table 10.



TABLE 10. NUMBER OF FIRST ADMISSIONS TO ALL INSTITUTIONS FOR MENTAL DISEASE IN NEW YORK STATE, 1929-1931, AMONG NATIVE WHITES OF NATIVE PARENTAGE, NATIVE WHITES OF SCANDINAVIAN PARENTAGE, AND FOREIGN-BORN SCANDINAVIANS, PER 100,000 OF CORRESPONDING GENERAL POPULATION

Age (years)	Males			Females		
	Native whites of native parentage	Native whites of Scandi- navian parentage	Foreign- born white Scandi- navians	Native whites of native parentage	Native whites of Scandi- navian parentage	Foreign- born white Scandi- navians
Under 15....	1.7	1.9	..	1.1	..	..
15-24 .....	49.8	49.2	24.3	31.3	36.9	50.4
25-44 .....	74.3	92.5	121.1	65.6	59.9	86.2
45-64 .....	99.3	193.6	134.2	78.5	95.9	119.2
65 and over ..	211.4	619.2	341.5	152.1	178.7	164.5

Among males the natives of Scandinavian origin had generally higher rates than the foreign-born group. Among females the reverse appears to be the case. Both groups, however, had rates in excess of those of native whites of native parentage.

#### SUMMARY

With two exceptions, the five selected groups of natives of foreign parentage had higher rates of first admissions than native whites of native parentage. The exceptions were natives of Italian parentage, and natives of Scandinavian parentage. In the latter cases, however, the rates were undoubtedly influenced by the favorable age compositions of the two populations. The Scandinavian rate, 51.3, differed insignificantly, from that of natives of native parentage, 53.7, so that it is highly probable that proper age adjustments would result in a reversal of the order. The Italian rate, 27.8, was considerably less than that of the native group, but the disparity in age is so great, that the 'crude' rate of the former is probably spurious. In general, we may conclude that natives of native parentage had lower rates than the selected groups of natives of foreign parentage.

The latter, however, had uniformly lower rates than the corresponding foreign-born groups, and the differences are of such a

degree that it is highly unlikely that age adjustments would alter the relative orders.

Natives of Italian parentage and natives of Scandinavian parentage had the lowest 'crude' rates of first admissions among the five groups analyzed in this study. As these two populations are decidedly younger than the remaining groups, their low rates might be regarded as partly spurious. Significance is added to the results, however, by the fact that in those groups of psychoses such as dementia præcox, where the Italian and Scandinavian stocks were not favored by age, they still had lower rates of first admissions than the others. The outstanding differences are displayed by the native whites of Irish parentage, who had rates of first admissions considerably higher than those of the other selected groups of natives of foreign parentage, or of all natives of foreign parentage. This is in agreement with results of an earlier study, which showed that the foreign-born Irish also had rates of first admissions considerably in excess of those of other foreign-born whites.<sup>5</sup> Natives of Irish parentage had higher 'crude' rates of first admissions in most of the important groups of psychoses, and it is probable, that the differences are statistically significant. Only in general paresis does the Irish rate appear comparable with the others. This again is in accordance with results for foreign-born Irish.<sup>5</sup> Natives of English and German parentage have rates of first admissions that do not differ significantly, and appear intermediate to those of the Irish, on the one hand, and Italians and Scandinavians, on the other.

As previously indicated, each of the groups of natives of foreign parentage had lower rates of first admissions than their parental stocks. It is a matter of significance, therefore, that within one generation, rates of mental disease have been lowered very materially within foreign-born stocks. Since the racial element is presumably constant, it indicates that environmental factors must play a highly important part in the genesis of mental disorders. Of interest, from this point of view, is the fact that in several instances, natives of foreign parentage had higher rates than the corresponding groups of foreign-born, and that these exceptions related to general paresis and the alcoholic psychoses, both of which

are sensitive to social attitudes and habits. The relative orders of these rates, therefore, indicate altered conditions of an unfavorable kind in some of the standards of life of the second generations of foreign stock in New York State. On the whole, however, the general picture, according to which natives of foreign stock have lower rates of mental disease than their parents, but higher rates than natives of native parentage, is consistent with an environmental explanation of the prevalence of mental disease, and indicates that with the passing of the years, each stock is adjusting itself to conditions of life in the United States.

## APPENDIX

TABLE 11. AGE CONSTANTS, IN YEARS, OF SELECTED NATIVITY GROUPS IN NEW YORK STATE, APRIL 1, 1930

Nativity	First quartile		Second quartile		Third quartile	
	Males	Females	Males	Females	Males	Females
Native whites of Italian parentage . . . .	7.2	7.2	13.5	13.5	21.3	21.3
Foreign-born Italians . . . . .	32.8	31.0	41.1	39.8	50.0	49.8
Native whites of German parentage . . . .	25.5	26.7	38.2	39.1	52.6	53.8
Foreign-born Germans . . . . .	30.7	30.9	45.8	47.2	60.1	61.4
Native whites of Irish parentage . . . . .	20.8	22.8	36.1	36.0	52.3	53.9
Foreign-born Irish . . . . .	31.5	32.2	43.8	45.4	56.6	57.8
Native whites of English parentage . . . .	17.8	19.4	33.5	35.0	50.3	51.8
Foreign-born English . . . . .	31.9	31.7	44.5	44.1	57.1	56.9
Native whites of Scandinavian parentage . . . .	12.2	12.6	22.5	23.0	35.3	35.7
Foreign-born Scandinavians . . . . .	30.4	31.8	40.6	42.9	52.7	54.6
All natives of foreign or mixed parentage . . . .	10.9	11.5	20.7	21.8	37.5	30.7
All foreign-born whites . . . . .	31.9	30.7	41.6	41.1	52.5	53.0
Native whites of native parentage . . . . .	11.3	17.0	25.2	25.7	42.0	42.5

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3. Rates for natives of native parentage will be found in a paper by Benjamin Malzberg, Ph. D., entitled "Mental Disease in New York State According to Nativity and Parentage." In *Mental Hygiene*, October, 1935.
4. *Ibid.*
5. See reference (2).

## PSYCHOSIS FOLLOWING ANESTHESIA

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Soon after the introduction of anesthesia, postoperative psychoses were occasionally attributed to the anesthetics, ether or chloroform. However, these views were not held very long, and later writers preferred to explain mental disease following surgery to either the sepsis concomitant with the postoperative state or to coincidence. Rohe<sup>1</sup> attributed most postoperative psychoses to infection. Hurd,<sup>2</sup> in 1899, emphasized the constitutional factors preceding the operation. Kelly,<sup>3</sup> in 1909, thought the anesthetic might have some toxic contributing effect, although he emphasized the possible psychogenic causation of postoperative psychoses. In more recent times, Doyle<sup>4</sup> summarized his experiences with anesthesia with the conclusion that insanity immediately following an operation might be due to the anoxemia caused by the anesthetic, but those occurring several days after the operation were due to other causes. He did not discuss however, the psychogenic influences of anesthesia in mental disease. Muncie,<sup>5</sup> in reviewing postoperative states of excitement emphasized that while constitutional factors and toxic influences were unquestionably of considerable etiologic importance, psychogenic factors have been markedly neglected up to the present time. In consonance with his observations, I wish to describe a psychosis in a patient of which open-drop ether anesthesia was the apparent psychogenic cause.

C. C., 23 years old, was admitted to the Dannemora State Hospital on February 21, 1935, with the following history: He was born in Italy in 1912, the eldest of six children, and was brought up in a small town of that country. He attended school there for eight years, reaching the seventh grade at the age of 14. He came to the United States in 1928 and began to work as a clothes presser. His employment has been irregular and seasonal, earning when working about \$28 weekly. He had a fracture of his right arm at the age of six, and of his left leg at the age of 17. Both were treated without anesthesia. He was arrested once on a Federal charge for possession of alcohol, but the case was dismissed. He

did not get much parental supervision and drifted into unwholesome company. He drank moderately. A brother of his was sent to the Catholic Protectory, for adolescent delinquency. On December 12, 1932, he was charged with robbery while armed. He pleaded guilty and received a term of 7 to 14 years. He claims that he was innocent of the crime, but was in a drinking party, one of whose members held up a speakeasy, and insists that he was not even in the room at the time of the robbery. He was charged with the act however by the owner and signed a confession to avoid a long sentence.

He entered prison on April 18, 1933, and adjusted himself to the institutional routine quite readily. The patient said that his detention did not make him worry very much, and it was not "getting on his nerves". As a matter of fact, the longer he was there, the better he felt, as his time was getting shorter. He did not mind being in a cell alone occasionally either, as he kept busy reading. Actually, he seldom had to stay in one for more than a few days at a time, as he worked steadily during his imprisonment. In October, 1933, he had some evidences of urinary infection and was cystoscoped without any after-effects. In September, 1934, a tonsillectomy was successfully performed on the patient under local infiltration. In October, 1934, he had an internal hemorrhoid excised. This was done under open-drop ether anesthesia, the operation lasting nine minutes. He recovered uneventfully and returned to work. In November and December, 1934, he had occasional pains in the right lower quadrant of the abdomen. On January 3, 1935, his symptoms suggested a subacute appendicitis, but because his blood count and temperature were normal, he was treated conservatively with ice bags. However, his pains did not subside and he therefore underwent an operation on January 5, 1935. Open-drop ether anesthesia was used and the procedure was completed in 13 minutes. An acute catarhal appendix was removed, and the wound was closed without drainage. The postoperative course was uneventful. Except for the first two days, the temperature did not rise above 99.8 degrees. The wound healed normally. The patient was out of bed on January 14, and was returned to his cell on January 18. He worked for a few days and complained that

he was nervous. He was therefore removed from his job and kept in his cell. He did not come to the attention of the physicians during the next month except for three mornings when he appeared in the dispensary, complaining of constipation. This was treated by mild cathartics. On February 19, he was described as trying to commit suicide by hanging himself in his cell. On February 21, he was described as "agitated, depressed, saying he was locked up 17 days for nothing, elaborating on the theme of death and destruction, and absorbed in himself". He was therefore transferred to the Dannemora State Hospital.

On admission he was greatly confused and agitated, answered questions sparingly and appeared markedly fearful. He showed improvement however, very rapidly and three weeks after admission assisted in the care of the ward. At that time, he was able to give me a clearer account of his psychosis which was as follows:

"Before I took the ether the first time, somebody told me that after you get up you never feel good any more. Yet, I really wasn't afraid. I took the ether and felt kind of funny as I didn't like the smell. I felt like I was choking and getting no air. I felt that it was taking a very long time and that it wasn't working. I had a dream that time that a bunch of people grabbed me and one guy said, 'Let him alone, we'll get him next time'. I looked at the lights for a few minutes before I took the ether, and it bothered me a little, because when I came out the lights used to get on my nerves. I was all right after the operation and from October to January didn't feel nervous at all.

"The night before the second operation, I thought of the dream I had the first time. I tried to forget it but it came back although I said to myself, 'There is no reason why they should want to get you'. That night I almost fainted in the toilet. I had the same dizzy feeling that I got afterward and felt the blood coming up from my stomach. When I underwent the operation, I fought the ether. I thought everybody was laughing at me. The lights bothered me again. I started fighting, felt my neck get sore and I went out of my senses. I felt well while I was in the hospital. I was up on the ninth day and went back to my cell four days later. I didn't feel weak. While in the cell I became dizzy. I was in a cell



for several weeks before and it didn't bother me. I began to work in the shop but I couldn't keep it up. The noise made me dizzy and gave me a headache. I asked to be excused from work and returned to my cell. Every time I bent over I felt I was going to fall. The first time I felt that way was before the operation when I was sitting on the tub after the enema. I was in the cell for two days and tried to spend my time reading.

"One night, I was in bed at 10:30 and I thought of the dream I had under the ether. I felt the blood coming up my veins and it went as far as my ears and I got like a shot. I jumped out of bed and started walking up and down. I smoked a cigarette to cool myself down because I was nervous. I walked for about an hour. I was scared something would happen to me. The officer came up and gave me a few pills and I fell asleep. For four days I tried to pay attention to the radio and not think of the dreams I had under the ether. On the fourth day, I slept to 2 in the morning. I couldn't sleep like before because I was scared something would happen. Just then the bulb went out near my cell. It gave me a shock and made me think of when I was under the ether. An officer came in with a flashlight and left. I thought it was the light again and something was going to happen. I jumped out of bed. I was afraid to stay in the cell. They gave me pills and I went to sleep. I tried to get my mind away. I stayed in front of my cell to see people so that I wouldn't be afraid. At night, I was glad I could see the officer at his desk so that I would be able to get help if I wanted it.

"I was all right for eight days. I tried to keep my mind away but it always came back. In the cell, I could walk only three feet. Every time I turned I faced the light. I tried not to look at it until one day I tied it up with a rag. When I went under the ether the men were talking. My head started going faster, the people started moving faster and looked as if they were looking for help because everybody was burning on account of me. I had the same idea that night and I wanted to commit suicide because I didn't want everybody to burn on account of me. I thought I was in Dan-nemora 100 years ago and the end of the world was coming on account of me. The radio announced, 'I'm very sorry, you got an

operation coming. You're locked in West Hall. Eleven o'clock it will be all over. So long, I'll see you in Broadway'. I got very nervous and told the officer to go away to get his people and save himself. Nothing happened at 11. I figured it was imagination and went to sleep. At night they played the searchlights on me (routine in prisons to see that the inmate has not escaped). It felt like burns. I started hollering they should keep away with the light. I couldn't sleep all night. I was sent here soon after that."

The patient made a complete recovery in several months, and after six weeks at the hospital operated a steam clothes pressing machine in the institution tailor shop. He also gained six pounds in weight during his first two months at the institution.

#### COMMENT

The patient noted above was of limited intelligence, easily suggestible, intoxicated at times, and had irregular employment so that he was able to roam the streets for weeks at a time with delinquent associates. He was pleasure-loving, carefree, emotionally unstable and evidently of psychopathic make-up. However, he made a good adjustment in prison until his operation. Before his hemorrhoidectomy, he was told that no one ever felt right after ether. This fear was intensified by looking at the powerful operating room lights prior to the anesthetic. During the stage of excitement, he suffered illusions that everybody was rushing about, and because of having just stared into strong electric lights concluded that the building was burning. When this was united with a probable subconscious feeling of guilt, he assumed it was all his fault. Before the second operation this anxiety and fear reappeared although he succeeded in controlling it for two weeks. When he was sent back to his cell, by fortuitous circumstances, and because of routine prison administration, he was frequently facing an electric light, a bulb went out in front of him and the officers shone a flashlight into his cell regularly during the night. All these incidents apparently reactivated the preoperative scene and reawakened the fear and anxiety of the patient. Although his symptoms were at first limited to fear, his subconscious feeling of guilt became effec-

tive again and he relived his experiences on the operating table, hearing over the radio that he was to be operated, and thinking that the building would burn on account of him. Finally, he tried to commit suicide. The anesthesia had acted psychogenically in much the same way as a physical trauma sometimes does, and its repetition gave rise to a psychosis. In most postoperative psychoses, Muncie<sup>5</sup> points out, there are toxic as well as psychogenic factors. In this case however, the patient had physically a complete recovery prior to the inception of mental symptoms, nor was there any hidden toxic absorption as the appendix was only mildly inflamed with no evidences of pus or necessity for drainage. It should also be noted here that the practice of many hospitals of inducing anesthesia in a separate room with nitrous oxide would prevent the psychosis in a case such as the above, as it would eliminate the excitement stage of the anesthesia, make its induction more rapid and avoid the period of looking into glaring lights on the table.

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## AUDITORY HALLUCINATIONS IN PRISON PSYCHOSIS

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One hundred cases of prison psychosis with auditory hallucinations have been investigated as to the content of their hallucinations. Prison psychosis is classified under the heading of "psychosis with psychopathic personality." It was possible to group these cases according to the main psychological reaction shown. In 65 instances auditory hallucinations were conditioned by a state of fear and anxiety. Nineteen patients had hallucinations of an undifferentiated nature with a lack of any specific trend. Ten patients suffered from hallucinations which contained commands. Eight patients told about hallucinations which are the result of sexual maladjustment. Two patients had hallucinations of mixed content and consequently were listed under more than one group.

I give a few examples which should illustrate each group of these hallucinatory experiences.

### GROUP 1

Auditory hallucinations which are conditioned by a state of fear and anxiety:

No. 2558.—A. H., a colored patient, was born in 1892 in Georgia. He started school at the age of eight and reached the fifth grade at the age of 15. The patient's father gives us the following points of interest out of the personal history. "As a boy he had more sicknesses than any of his brothers or sisters, the most serious being typhoid fever. As a small boy he was obedient and played with other children. When he was 13 years old he had a rambling mind; it seemed like he could not help himself, he just had to go; he could not control his mind. He was easily discouraged, often got worried and ran away from home." After leaving school his industrial record is very poor. He wandered about a great deal, working at various odd jobs. The longest time he ever held one position was eight months. He never married. He was lacking any ambition in life. He was subject to periods of excessive alco-

holism associated with irritability, which at times would find expression in assaultive attacks.

His first arrest was in 1919 for a felonous assault while in the army. The same year he was sentenced to a term of two years for the crime of larceny, which term he served in the Leavenworth penitentiary. In 1927 he was arrested for disorderly conduct in Chicago. In 1929 he served several months in the Holmesburg County jail in Pennsylvania. The crime was assault and battery. The same year he was incarcerated for five days for trespassing in Albany, N. Y. In 1932 he was sentenced to a term of four years for the crime of confessed attempted assault, second degree. This crime consisted of assaulting another man at a party when this man refused to buy more liquor.

In June, 1933, while in Attica State prison he became psychotic. He had adjusted well for 14 months while in prison. The psychotic attack was rapid in its onset. He became tense, apprehensive and fearful. His utterances were as follows: "My natural disposition they don't like. It is more the colored prisoners. About three screws (officers) are against me too; they are working along with the crowd. I heard some of the men talk about me; one time they say I am a rat, and at another time they say I am crazy, and they call me a son-of-a-bitch. I think if they had a chance they would stick me with a knife, or something like that. Sometimes they try to make noises; I suffer from my ears and they beat on the walls. There was tappings, beatings. When I talk to other prisoners, they bang their fingers on the table, and some of them scratch their chests.' They do a lot of devilment against me. I hear a lot of buzzing in my ears; it comes on like a whispering, just a noise like what I call 'death bells.' I know I am going to die some day but it bothers me. Once three prisoners beat me up. Everybody is my enemy after I talk to them. I have seen them point their fingers at me."

Let us now analyze the psychotic status of this patient. He is tense, apprehensive and fearful. On the basis of this feeling tone he remembers that once three prisoners beat him up. He feels that everybody is his enemy. He thinks of death and expects that at any moment somebody may knife him in the back. The ground

seems to be prepared for the appearance of hallucinations of a specific color such as are conditioned by fear, apprehension and tenseness. He starts to "suffer from his ears," he perceives buzzing, whispering noises, tappings, beatings. The beatings become "death bells" for him. The noises turn into voices. They call him a rat and a son-of-a-bitch. Danger is now at its height, for being called a rat by his criminal colleagues brings back memories of others "being taken for a ride" and it may mean death.

After the psychosis had lasted for nine days the patient was transferred from Attica State prison to the Dannemora State Hospital. He arrived here on July 7, 1933. On the trip from prison he was quiet. He was interviewed soon after his arrival. He was then quite talkative and agitated. He related to us that in prison they called him a rat, that they wanted to stab him, that they pointed him out to others and talked about him. In an interview on July 14, he did not change his story about his experience in prison but stated that they do not talk about him here. In an interview on July 28, it was found that he had calmed down and there was no evidence of any recent hallucinatory experiences. On September 4, he stated that he thinks that in prison he was a "little off." On February 3, 1934, he was convinced that he only imagined people were making threats against him. We could see the hallucinatory experiences dwindle away with the disappearance of excitement. It took much longer for insight to return when the patient recognized the false nature of his previous auditory perceptions in prison.

No. 1794. The patient was born in Lithuania and was 33 years old when admitted to the Dannemora State Hospital. He had attended school for about eight months in the old country and worked on a farm most of the time. He came to the United States when he was 19 years old. He first worked in a hat shop and was then employed in a paper mill for about one year. He then worked in mills of the American Woolen Company for five years. In 1918 he was drafted in the army; he was sent to France, where he saw service in the Argonne. He returned to the United States in April, 1919, and got an honorable discharge. Until his arrest in 1922,



he worked on the Erie Railroad as a section hand, then got a job unloading boats in New York City.

In April, 1922, he was sentenced to a term of from 5 to 10 years for the crime of confessed robbery, third degree. He states that he went into a place with another man to drink some whiskey with a third man. After they had their drinks, this man said that the third man had some money and they should take it away from him. He says they were all drunk and while this man was sleeping on the sidewalk they took his money; they were arrested soon afterward.

In September, 1923, while in Sing Sing prison he began to worry and became upset. He complained to the principal keeper that other inmates made remarks and threats against him. He heard them accuse him of "squealing on others in New York City" and they said they would get him. He was afraid and did not sleep well at night. He was sent to the prison hospital and remained there one month.

This was his first psychotic episode in prison. It was characterized by a state of fear and anxiety and accompanied by hallucinations which told him that he had "squealed" and that they are going to get him. He apparently recovered, for in December, 1923, he was transferred to Auburn State prison.

For a month he adjusted well in Auburn prison but then became uneasy. He began to complain that the inmates passed remarks about him. They did not make any threats to his face but he heard them say they would "cut him up for stew." He heard one man say "He is getting away, he is a wise guy but we are going to get him yet." He went to the doctor and complained that he had heart trouble so he would be locked up.

This second psychotic episode has the same characteristics as the first. He is fearful; the voices tell him that they are going to get him and cut him up for stew. He tried to be locked up in a cell to avoid his enemies.

He arrived in the Dannemora State Hospital on February 22, 1924. In the first week after admission he cooperated, was quiet, adapted himself well, did not worry about anything and did not show any evidence of auditory hallucinations. Three weeks later

he became depressed and fearful of those about him. He stuck his head through a window pane and temporarily had to be restrained. He asked to be locked up as he was afraid of a colored patient. He complained that certain patients were planning to do him harm. Auditory hallucinations appeared again. He heard people on the street say "Go and knock him off." He heard other patients say that they wanted to kill him. He ate poorly and threatened to squeeze his testicles until he died. This third psychotic episode lasted for about three months.

In this case we observe three psychotic episodes separated by lucid intervals. The feeling tone of fear, anxiety and apprehension was always accompanied by auditory hallucinations of the same specific content and color.

Sixty-five cases could be placed in this group.

## GROUP 2

Auditory hallucinations of an undifferentiated nature with a lack of any specific trend:

No. 1856. The patient stated at the time of his psychosis that he heard two persons talking but does not remember what they said. He admitted auditory hallucinations but was unable to give their content. Cases with this type of hallucinations constitute the second group. They are hallucinations with an undifferentiated content. The patient has the characteristics of a typical psychopath; has a slippery and cunning disposition; is a habitual offender. He has been a petty gambler all his life; has mingled with thieves and prostitutes; has served a previous reformatory sentence having been sent to Elmira reformatory for holding up a pedestrian in Central Park, New York City.

At the time of the psychotic attack he complained about soreness of the head and lack of sleep; thought that the hospital steward wanted to strike him. He laughed in a silly manner when spoken to, had no apparent interest in his surroundings, did not try to occupy himself in any way, tore up his clothes; required prompting in order to eat and care for his person. He did not respond to discipline; had lost the last eight months credit and was not at all incensed.

We miss in his psychotic attack the acute panic and excitement which we experienced in the cases representing the first group. The second group contains 19 patients.

### GROUP 3

Auditory hallucinations which contain commands:

No. 2295. The patient's industrial record and personal history is that typical of an individual with a psychopathic personality. He started school at the age of seven and progressed to the seventh grade, when he was 15 years of age. At this time he left school and worked as a mill operator in Providence and other Rhode Island cities for about four years and then was employed as a teamster in Providence for about three years. Following this he worked in different hospitals as a hospital attendant and was so employed off and on up until his arrest. When 23 years old he married a girl much his junior whom he had already impregnated. Two years later, his wife ran away from him and took the baby and he did not hear from her any more.

At the time of his psychotic attack in prison he stated that he heard voices in his ears; one says to do certain things; the other tells him not to. At first he could not make out the voices but on second examination states that he thinks that they are the voice of his mother. He can't explain how they could be present when he knows his mother is dead.

This type of hallucination is found in the third group; the patient receives commands and is at a loss in following these commands since they are often succeeded by other contrary commands. A feeling of apprehension and insecurity is present.

The same feeling tone is represented by his delusions. He says his 10-year sentence looks like life to him. He fears his brother-in-law has been spreading false reports to his family; thinks that this is the reason when his family does not write to him. He states that he has a foul odor from his ear and that he feels that he must have tuberculosis in them as well. Says that his wife left him because of his inability to satisfy her sexually.

Ten patients belong to this group.

GROUP 4

Auditory hallucinations which are the result of sexual maladjustment:

No. 1944. Patient was born in New York City of Irish parents. He started school when he was six years of age; he went until he was 14, attaining the sixth grade. After leaving school he went to work as a cash boy for a department store where he worked about eight months, then worked as a delivery boy for a dairy for about a year, after which he moved to Massachusetts, where he worked in a factory for about six months. Then he came back to New York State, and has since worked intermittently as a truck driver.

He has been arrested several times for such offenses as playing crap, disorderly conduct and intoxication. His first sentence for a felony is that for manslaughter, first degree. He says that he was intoxicated in a saloon and began shooting the lights out. The saloon keeper attacked him with a broom and he shot him.

While he was serving sentence in Great Meadow prison he became psychotic. He began to hallucinate and the content of his auditory hallucinations points to sexual maladjustment. He said, "I hear others talk that I speak like a girl and that I make bead bags like my sister. They say such things in a high pitched voice; they talk about a thing that happened years ago when two Italians forced me into a sodomy."

The feeling tone of fear, utter discomfort and apprehension produces the memory of his perverse experience with two Italians. Disagreeable thoughts such as not being a regular man and rather a girl and others which preyed on his mind at the time the sexual perversions were committed reappear disguised as auditory hallucinations. He hears others say that he has the voice of a girl and makes bead bags.

At the time of his hallucinatory experiences he complained that the inmates all laugh at him; they all have it in for him; he does not want to be released from prison and go outside because what these fellows say will follow him. He was depressed and worried. Mouth and chin quivered as he told about what the other fellows thought of him.

Three months after his admission to the Dannemora State Hospital he had lost his fear reaction. Auditory hallucinations had disappeared previously.

Eight patients belong to this group.

#### DISCUSSION

The first group containing hallucinations conditioned by a state of fear and anxiety is more than three times as large as the next group. Twenty-one patients in the first group found themselves accused of being a rat and a squealer. This seems to point to the assumption that hallucinations are the outcome of a previous psychological experience in these cases of prison psychosis. To criminals who lived according to their own code, being known as a squealer or rat means serious harm or even death from the hands of their associates. The feeling tone in these cases of prison psychosis is mainly fear and anxiety and we consider this to be the primary psychotic phenomenon. It brings back to memory experiences which originally were associated with that specific feeling tone. As soon as fear and anxiety dominate the psychotic patient, thoughts and memories come up which previously were combined with these disagreeable sensations. Central associative nerve currents stimulate the auditory centers and the individual has the impression of hearing something. At times they will claim that others repeat things they are thinking about; one patient will say that he could hear others read whatever was on his mind or that some kind of mental conversation was going on in his mind. Thoughts in a mind that is working without control may be mistaken for auditory perceptions.

The second group consists of hallucinations of an undifferentiated nature which lack any specific trend. It is quite possible that mental blunting in a benign psychosis like the prison psychosis does in certain cases not reach very deeply and this fact causes the paucity of elaboration and thus the undifferentiated type of auditory hallucinations. Moreover, in many cases of this group we do not find the panic and acute excitement of the ordinary case of prison psychosis with auditory hallucinations.

In the third group the patients are given commands. This type of hallucinations is based on a condition of insecurity and apprehension. The hallucinated person can never tell what the next command might be. We find this group situated not far from the first group if we consider the feeling tone.

The hallucinations of the fourth group are liable to be combined with disagreeable content such as feelings of guilt and self-reproach.

#### SUMMARY

One hundred cases of prison psychosis with auditory hallucinations have been investigated as to the content of their hallucinations.

Auditory hallucinations in prison psychosis are symptomatic of a state of fear, anxiety, a feeling of insecurity and apprehension. The peculiar content of auditory hallucinations in cases of prison psychosis seems to suggest that hallucinations are the outcome of a previous psychological experience.

The feeling tone in a psychotic individual suffering from prison psychosis seems to be the conditioning factor in regard to auditory hallucinations.



## THE STERILIZATION QUESTION\*

### *Abstract*

Appointed by the American Neurological Association and subsidized by a grant from the Carnegie Foundation, an able committee headed by Dr. Abraham Myerson has brought between the covers of one book nearly all of the important facts and theories concerning sterilization. The authors subjected the material they had under consideration to critical analysis and on June 5, 1935, submitted a report of 132 pages, with recommendations for further and far more extensive study before we embark on any large scale program of vasectomy and salpingectomy for the unfit and the undesirable, if indeed it can be proven that wisdom lies in that direction.

The history of the movement for sterilization in this country is largely a narrative of failure. Although 27 states have enacted such legislation, the extent to which the laws have been put into effect is negligible, as shown by this committee's analysis of the situation. In California, most ardent advocate of sterilization, an average of only 432 operations a year have been performed. Furthermore, this allegedly eugenic procedure has met with no better fate outside the United States, all laws pertaining to it being practically dead letters everywhere but in Germany.

A splendid contribution of the report of Dr. Myerson and his associates is the manner in which it explodes some mistaken impressions, notions that prevail even in the circles of the better informed. One common misinterpretation of crowded conditions in mental hospitals and schools for mental defectives, that of "alarm at the increasing incidence of mental defect and disease in the population," is dismissed as it should be. Certainly we know that it is *commitability* and *recognition* that are on the increase. *Facilities for care* is an important factor, too—wherever hospitals and psychiatric attention are more accessible, there the *known* mentally defective and disordered will show a higher incidence in the population than in communities or regions not adequately provided

\*Report of the Committee for the Investigation of Sterilization. American Neurological Association.

for in this respect. The meagreness of such attention in former decades renders valueless the comparison of the figures of the previous century with those of today.

A familiar warning sounded by enthusiasts for sterilization is their insistence that the unfit will eventually breed out the better fit of the human race. The report refers us to a quotation from the British Commission on Mental Deficiency:

There is a widespread belief that one of the characteristics common to defectives is abnormal fertility. This is not borne out either by this inquiry or by such other statistics as we have been able to collect bearing on the size of families of known defectives.

Studies in the psychoses also present contradictions of claims of a rise in the proportion of unfit to the general population. The authors use a statement of Popenoe, who is a leading practical worker in the field of eugenic sterilization in the United States: "The marriage rate of the psychotic of both sexes is markedly below that of the general population at all ages." Another statement reads: "Since three-fourths of all first admissions are aged 30 or over, it appears that a woman who is single on admission to a hospital for mental diseases is, even if promptly discharged, likely to remain single during the rest of her life." Dr. Myerson, on reviewing dementia præcox, has concluded that "whatever is back of dementia præcox operates against self-perpetuation." He points to the exceedingly low marriage rate among males having this psychosis and states his opinion that the internal mechanism of the disease opposes marriage. This seems quite logical, and since dementia præcox constitutes such a large percentage of patients in mental hospitals, this fact may be considered as rather significant.

Another known fact that works dysgenically with regard to the mentally diseased is that demonstrated by life expectancy tables for the insane. Louis I. Dublin, statistician for the Metropolitan Life Insurance Company, after a survey of patients in the New York State hospitals, declared:

It is certain that the expectation of life of the insane is greatly curtailed, possibly by as much as one-half.

Benjamin Malzberg, senior statistician for the New York State Department of Mental Hygiene, reading a paper at the 1930 meeting of the American Statistical Association at Washington, claimed that his studies showed:

At every age level the general population has an expectation of life from two to three times as great as that among the patient population (in State hospitals).

Space is allotted to the ecclesiastical attitude, with the quotation of excerpts from an encyclical of Pius XI, in which the sacredness of the family is upheld and, as would be expected, the right of man to interfere with natural forces is denied.

From the viewpoint of the sociologist, we read a statement of Charles A. Ellwood:

If eugenics were made the basis of a code of minute legislative prescriptions regarding marriage and reproduction, it would become an intolerable tyranny, but as the basis for social ideals regarding marriage and the birth of children, it is invaluable.

A goodly portion of the report is given over to considerations of genetics. Sufficiently broad reading on this subject will indicate that the orthodox genetics of two or three decades ago has undergone notable change. The former conception of a sort of predestination, by which the germ cells held the factors for our characteristics and these factors were irrevocably determined, has had to give way to more recent formulations and the conclusion that: (H. S. Jennings)

The characteristics of the adult are no more present in the germ cells than are those of an automobile in the metallicores out of which it is ultimately manufactured. To get the complete, normally acting organism, the proper materials are essential; but equally essential is it that they should interact properly with each other and with other things—and *the way they interact* and what they produce depends upon the conditions.

This later development of thought in the field of genetics brings us to the concept of environment as a *releasing agent* for the *manifestation* of a character without which influence such character

might not appear. We are now more willing to admit that what we have called environment is actually just a continuation of that much earlier environment which influenced the organism ever since it was a single fertilized cell.

The attempt to tie up heredity with criminality is balked, as the committee read numerous studies on families of prisoners and found the consensus of opinion to be that "born" criminals are extraordinarily rare, and that even such "inheritance of a readiness to react asocially" may not be elicited in favorable environmental surroundings.

Specific psychoses and types of feeble-mindedness, as well as epilepsy, are discussed from the standpoint of heredity. The attitude of the committee on this score is that most of the studies prove to be more or less inadequate. Particularly do Dr. Myerson and his colleagues criticize such genealogies as those of the Jukes and Kallikaks. Our experience of today shows us that the feeble-minded do not come from the dregs of society, as these older studies show, but from the lower middle class. There is a feeling that in those older genealogies, the technique of inquiry was unreliable, since field workers frequently passed judgment on individuals dead four or five generations, on the most doubtful information.

Anent schizophrenia, the following conclusion is arrived at, based on investigations by E. Rudmin, Albert Barrett, H. Luxenburger and others:

In spite of the criticism we have made of the material studied, it is probable that there is some hereditary factor operating in the production of dementia præcox, although it cannot be stated that this has been satisfactorily demonstrated . . . how potent that hereditary factor is, in what percentage it operates, certainly is not known.

In relation to this aspect of the schizophrenia problem, one is reminded of the presentation of Dr. G. Macfie Campbell in the Salmon lectures for 1935. He concludes that though we are not in a position to deny the possibility of organic factors in its etiology, they have not been identified and there are quite enough pernicious factors to be found in early environmental influences to occupy attention for the present, so that the psychiatrist is in somewhat the

same position as was Hamlet, who would rather bear those ills he had than fly to others that he knew not of. Thus, human genetics and psychiatry both far from being exact sciences, we should find ample opportunity for erasing manifestly harmful social ills and treating individuals in accordance with their particular problems, without flying to a regimentation of the human race on the basis of sciences which are still in the formative stage.

Especially commendable in the report of this committee, is the caution with which its authors move through the jungle of suppositions, propositions and statistical studies with measured steps, taking nothing for granted. In the evolution of man's scientific approach to self-betterment, there have been too many assumptions, and proponents of this or that pet theory have overzealously accepted the flimsiest evidence as irrefutable dogma. We are warned by Dr. Myerson and his confreres that we cannot make generalizations regarding human conduct on the basis of findings in lower forms of life.

The following recommendations serve as conclusions arrived at by the committee:

*First:* Our knowledge of human genetics has not the precision nor amplitude which would warrant the sterilization of people who are themselves normal, in order to prevent the appearance, in descendants, of manic-depressive psychosis, dementia præcox, feeble-mindedness . . . An exception may exist in the case of normal parents of one or more children suffering from certain familial diseases, such as Tay-Sachs amaurotic idiocy.

*Second:* Particularly do we wish to emphasize that there is at present no sound scientific basis for sterilization on account of immorality or character defect. Human conduct and character are matters of too complex a nature, too interwoven with social conditions, such as traditions, economics, education, training, opportunity, and even prejudice, especially when these factors operate in the earlier years of life, to permit any definite conclusions to be drawn concerning the part which heredity plays in their genesis.



*Third:* Nothing in the acceptance of heredity as a factor in the genesis of any condition considered by the report excludes the environmental agencies of life as equally potent and, in many instances, as even more effective. That scientific day is passed when the germplasm and the environment are to be considered as separate agencies, or as opposing forces. Both operate in the production of any character, though in different degrees, but the degree in which each operates is, at present, in the country of the unknown.

The positively constructive side of the report takes the form of a challenge to neurology and psychiatry, insisting that these disciplines still have as their duty the laborious task of discovering pathology, pathogenesis and therapeutics even for those conditions in which heredity undoubtedly plays a rôle. With the statement that investigation in the problem of heredity has been haphazard and inexact, though necessarily so at the time, the suggestion is made that the day has come for a prolonged research to be undertaken in which neurologists, psychiatrists, statisticians and geneticists will collaborate. In the opinion of the committee, such a study should cover at least 10 years of investigation and the technique should be carefully worked out in advance to insure uniformity over the entire period of the study. Especially important is that the study should cover the *total population*—a neglected field, according to Dr. Myerson, and without adequate knowledge of which no generalizations or even basic hypotheses can be made concerning the actual mental tone of the race.

It is felt that the report tended to ignore some of the social factors involved in mental disease and defect, but perhaps that was because there was a greater demand upon them to settle some very debatable issues pertaining to eugenics.

Surely it must be admitted, however, that the offspring of the unfit, while they may not even inherit an undesirable constitution, are more than likely to encounter serious environmental handicaps arising from the emotional, intellectual or social maladjustment of the parents. For this reason, the "intolerable tyranny" which Ellwood mentions can be averted by the proposal of the report, that "any law concerning sterilization passed in the United States



under the present state of knowledge should be voluntary and regulatory, rather than compulsory."

It is recommended that boards be appointed, composed of persons who have had especial training and experience in the problems involved to study each case on its merits and then should strongly suggest, urge, or recommend against sterilization, in accordance with the findings.

Equally illuminating for the scientist and the intelligent layman, the report of the Committee for the Investigation of Sterilization of the American Neurological Association presents in sketch practically all that has been written on the subject, supplies a bibliography at the end, and throughout maintains an unbiased perspective. The only enthusiasm shown is that which advocates that we do not "hurry into a program based upon fear and propaganda." One statement serves to sum up the attitude:

Although the problem of mental disease and defectiveness is enormous, there is no *new* social or biological emergency.

## ON THE INDIA INK REACTION OF SPINAL FLUID\*

### *Abstract*

One of the criticisms leveled against the Lange colloidal gold test is the difficulty of the gold solution preparation. It has been claimed that uniformity of solution was difficult to obtain and that variation in the standard gold chloride of various laboratories was sufficiently great to lead to diagnostic errors. This was one of the reasons which impelled Benedek and Thurzo to experiment with colloids of greater stability for purposes of sero-diagnosis. Several years ago they proposed India ink for this purpose, substantiating their claims of its usefulness on various theoretical grounds of colloidal chemistry and the electrophysical factors involved, and on the practical grounds of simplicity of procedure. The simplicity of the test procedure allows it to be carried out in general practice since it does not require any elaborate laboratory equipment.

In their series of test cases, Benedek and Thurzo obtained results in which the test set off the normal fluid from the abnormal. In the fluids of patients with various neuro-psychiatric diseases, characteristic findings were obtained. With the recommendation of these advantages in mind, a trial of the India ink test was undertaken in an unselected series of psychiatric cases checked by a parallel investigation of the colloidal gold reaction.

The 1928 League of Nations conference on laboratory tests for syphilis, according to Kahn, considered four requirements as basic for a desirable test for syphilis: (1) practicability, (2) sensitiveness, (3) specificity and (4) clear-cut reactions. We might well apply these criteria in the results obtained with the India ink tests.

1. The reaction certainly meets the test of practicability. The recommended India ink should be readily obtainable in this country or from the manufacturers. Some difficulty may at first be encountered in the preparation of the one per cent ink solution on account of the ink sticking to the side of the pipette. With some practice and a little ingenuity, however, this can readily be overcome.

4. To apply the fourth point of the conference criteria next, there can be little complaint on this score. The reactions are gen-

\*Read at the May, 1935, meeting of the American Psychiatric Association in Washington, D. C., by Dr. Elmer Klein, associate clinical director, Stony Lodge, Ossining-on-the-Hudson, N. Y.

erally clear-cut, excepting that the transitional tubes sometimes leave one in doubt.

2 and 3. The greatest difficulties and contradictions, however, arise in connection with the second and third requirements—sensitiveness and specificity. It must be recorded at the outset in the discussion of these two points that the same sample of cerebrospinal fluid may often yield varying results on repeated tests. This disadvantage was recognized by the originators of the test. They likewise recognize the extreme sensitivity of the test in that they found a positive reaction in the spinal fluid in various psychoses with organic components. This is held out as a disadvantage in differential diagnosis. Our own findings in the psychoneuroses, for example, were more or less the same as in paresis, or for that matter, in other psychoses. Its range of differentiation, therefore, is great enough to include fluids in which it would confuse, rather than help.

While sensitiveness is too great where it is not desirable, it is not great enough where we have a right to expect it. Not only is there no specificity in the luetic group, where the colloidal gold test is of such tremendous help, but there is no uniformity or correspondence with parallel clinical conditions, nor with other serological tests.

On the basis of over one hundred test reactions, therefore, we must conclude that on grounds of specificity the India ink procedure does not offer any diagnostic help. The sole exception to this is in cases of meningitis, where the test is reported to have shown significant diagnostic specificity, and the procedure may merit further investigation in that direction. Still, we must agree with the work of another investigator, who likewise, on grounds of 150 test cases, concludes that the test has little practical value.

THE PSYCHIATRIC QUARTERLY offers the above abstract of Dr. Klein's paper which was read at the May, 1935, meeting of the American Psychiatric Association in Washington, D. C., in the hope that it will clear any doubts that may exist on the reliability of the India ink test, especially in its use for diagnostic purposes in the psychoses. Charts appearing in the original paper were omitted, but these bore out the conclusions of the author.

## GRADUATE INSTRUCTION IN PSYCHIATRY AND NEUROLOGY\*

### *Abstract*

The general organization of medical training comprises three distinct steps—(1) basic instruction, (2) specialized instruction and (3) refresher, or continuation, courses.

Dr. Franklin G. Ebaugh visited 11 medical schools in the United States and 1 in Canada, gathering data relative to their graduate courses in psychiatry and neurology. His findings appear in a booklet issued by the division of psychiatric education of the National Committee for Mental Hygiene.

Although all of the schools visited are mentioned in more or less detail, specific reference is made to the most impressive examples of the four definitely recognizable types of course. Syllabi and lecture programs are reproduced which should interest those seeking counsel on where and how to apply their efforts for further study in the two fields in question. We quote, in sketch, the examples given of these four types:

The *apprenticeship* type (Johns Hopkins University School of Medicine)

1st year—4 months in charge of one of the acute wards

4 months in out-patient department

4 months residency in one of two large state hospitals near Baltimore

2nd year—Assigned to wards in which psychoneuroses and special personality disorders predominate

Dispensary assignment, with conduct of some investigative piece of work

3rd year—Advanced clinical work and private ward service

The *formal* type (University of Pennsylvania Graduate School of Medicine)

1st year—Basic studies

2nd year—"Precepteeship," through residencies, fellowships or assistantships

3rd year—Research and continuation of clinical work

\*Graduate Instruction in Psychiatry. Franklin G. Ebaugh, M. D. National Committee for Mental Hygiene, Inc., 50 West 50th Street, New York, N. Y. 1935.

The *intermediate* type (Columbia University College of Physicians and Surgeons)

A combination of the *apprenticeship* and *formal* types

After internship, three years study and clinical work, at least one year of which must be spent in residency at Columbia University or its hospitals

The *University of Toronto* plan

Has been made essential for appointment to medical staffs of all mental hospitals in the Province of Ontario. Covers a period of one year, followed by examination through a board on which three Ontario universities are represented

The splendid contributions of the Commonwealth Fund and the Rockefeller Foundation are pointed out. They provide fellowship opportunities for training in psychiatry which have served to stimulate men to enter the field and have raised the plane of psychiatry in general.

Dr. Ebaugh discusses the role of psychiatry in the general internship, asserting that "the minor psychoses or the psychoneuroses include between one-third and one-half of the problems of general medicine in which detailed, exhaustive studies from the viewpoint of the organic findings are not fruitful." He makes the point that the training of the physician should emphasize the importance of the psychological aspect of medicine, and the treatment of the *person* rather than the *disease*.

We note also the mention of continuation courses offered by the Psychiatric Institute and Neurological Institute of New York, the State Psychopathic Hospital of the University of Michigan, and others. That given by the Graduate School of the University of Pennsylvania in collaboration with the Department of Public Welfare is outlined in some detail. Dr. Ebaugh issues a challenge to American psychiatry and medicine in stating that these continuation courses play a much more important rôle abroad than in America. Especially noteworthy is the fact that such studies are compulsory for all physicians in the Union of Soviet Socialist Republics—in 1933, 2,000 Moscow physicians devoted one day of every five to continuation courses.

That psychiatry and neurology have "come of age" as recognized specialties and as part of the basic training for general medicine is evinced in the establishment in 1933 of the American Board of Psychiatry and Neurology, in whose 12 members the American Neurological Association, the American Psychiatric Association and the American Medical Association are equally represented. The National Committee looks upon the creation of this board as a step in the direction of insuring psychiatric basic training to practice medicine through licensure.



## BOOK REVIEWS

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**The Foundations of Human Nature.** The study of the person. By JOHN MORRIS DORSEY, M. S., M. D., associate professor of psychiatry, University of Michigan Medical School; first assistant physician, State Psychopathic Hospital, Ann Arbor; consulting psychiatrist, Wayne County Clinic for Child Study, Detroit. Longmans, Green and Company, New York, 1935. Cloth. 488 pages. Price \$2.80.

This book, written directly and specifically for educators, has uses for physicians as well, and especially for those who take on an educational status in the work of child guidance or adult reconditioning. It is not just another book to repeat the psychiatric jargon of those who have gone before, but it bears the marks of being the result of the experience of a psychiatrist of wide reading and mature reflection in contact with the life problems of men, women and children. Perhaps its most useful feature to the inquiring mind lost in the mazes of many conflicting currents of thought lies in its coherent presentation of a philosophy of life, taking into consideration the biological basis of the organization, racial and cultural background, the constitutional pattern of the personality, its internal orientation and world relations and its modifiability by educational art, love and skill. The reader who goes to it for a ready-made formula which he may use as a final solution of his difficulties will be disappointed. He who goes to it for a many-sided approach to the "application of a proper understanding of experience to the strategy of life," the author's definition of mental hygiene, will find a great deal to stimulate his thought and temper his practice. The psychiatric approach to the problems of life is marshalled in terse sentences which seek to make meaning as clear as words can make it, quite without any oratorical effect.

One of the best features of the book is the apt quotations to be found on almost every page, illustrating from the wisdom of the ages the ideas being presented. It emphasizes that there is more than one side to every question, that living beings cannot stand still, that they must act and react, that living is a perpetual compromise. The book is about what experience has to teach concerning building up a well-integrated personality and finding the useful and practical compromises that make for a good life. Every physician as well as every educator should be at least tinctured with these viewpoints which are here set forth in their relations with uncommon completeness. The doctor needs a biological philosophy and its makings are in this book.

**The Evolution of Modern Psychology.** By RICHARD MÜLLER-FREIENFELS. Translated by W. Beran Wolfe, M. D. Yale University Press, 1935. 513 pages. Price \$5.00.

The author of this survey and critique of psychology is an eminent German psychologist. The compass of the book is prodigious, tracing as it does the evolution of modern psychology from primitive man and concluding with an appendix touching upon mind reading, telepathy, clairvoyance, telekinesis, or as this section is entitled, "parapsychology and the unconscious."

The work divides itself into two main divisions; the first treats of individual psychology, dealing rather extensively with the development of "consciousness." The second major division covers mainly social psychology and is treated primarily under the classification "the super-individual life." Throughout there is considerable attention given the approaches of different psychological schools to the problem of the soul concept, with the declaration that little hope should be entertained for early agreement between the warring factions. The author is probably right in this assumption, for in his evaluation of these divergent trends of thought, he demonstrates the improbability of fusion of such conflicting doctrines as exist today. The only hope for uniformity, as pointed out by the author, lies in the fact that psychologists are not so inclined as they were a decade or so ago, to be dogmatic about their theories.

There is a comparison of the theories of the nineteenth century philosophers with the then contemporary developing theories of social psychology in which the reader gathers the impression that Müller-Freienfels is suggesting that if psychology is to be a well-founded science and is to develop a useful technique, psychologists must give ear to the philosophers and acquire an adequate philosophy of psychology.

Because of his concentration upon the work of European psychologists in recent years, the author touches upon the work of only those American psychologists who are known well in Europe, giving thus considerable attention to James, his one-time teacher, and to John Dewey.

The arrangement of subject matter is logical and convenient. Summaries are to be found at the conclusion of almost every major division and there is a useful chronological bibliography giving the titles of the most important works on the subject from 1880 to 1933. W. Beran Wolfe's\* translation from the German is commendable.

\*W. Beran Wolfe met with an untimely accidental death in August, 1935.

**Destiny and Disease in Mental Disorders.** By C. MACFIE CAMPBELL, M. D. W. W. Norton and Company, New York, 1935. 203 pages. Price \$2.00.

Professor Campbell was chosen to deliver the Thomas W. Salmon lectures for 1935 and the three lectures make up this volume of about 200 pages. The author is endowed with wholesome scientific curiosity; the obscure problems of psychiatry are to him a challenge, the difficulties of which he does not minimize nor undertake to simplify. On the contrary the gaps in scientific knowledge of mental disorders are pointed out as a stimulus to research and study. In these lectures the author is concerned with the schizophrenia psychosis.

After consideration of the various approaches for the understanding of the nature of the mental disorder, which he calls "the trends in psychiatry" and which include the histopathological, biochemical, and others referred to briefly, he concludes that science has been enriched by their contributions. They fall short, however, of explaining the most important facts with which the psychiatrist is called upon to deal; that is, those affecting the human personality. None of these disciplines nor the psychology of the academic schools throw any light whatever upon the overt and subtle manifestations of schizophrenia, the speech and behavior of these patients. The case material which he presents in the second chapter seems at first glance to be bewildering in its scope and variety but shorn of unessentials, as his presentations of case histories are—few of them cover more than a page or two. His cases are classified into three groups and each in turn into subgroups, presenting features common in each group but different from those in the other groups. One cannot help but be struck, in reading these carefully prepared tabloid case histories, by the atypical childhood experiences of the individuals described.

The concluding lecture is entitled "Our Kinship with the Schizophrenic." In this last chapter the author presents the facts and circumstances which indicate that the bizarre behavior and speech of the schizophrenic may be accounted for by types of reaction to be observed under special circumstances in ordinary people of acceptable social value; that the total organism contains within itself potentialities for various types of reaction to devastating situations and there is no necessity to conjure up the processes of disease, as that term is ordinarily used, to explain the phenomena of schizophrenia. He supports the position by reference to primitive mentality, to dream processes, to war neuroses and to the case material presented in the second chapter to support this conclusion. One closes the book with the conviction that psychiatry is a debtor to Dr. Campbell for this frank presentation of his point of view.

**Diseases of the Nervous System.** By SMITH ELY JELLIFFE, M. D., Ph. D., and WILLIAM A. WHITE, M. D. Sixth edition, revised and enlarged. Large octavo, 1175 pages. Lea and Febiger, Philadelphia, 1935. Price \$9.50.

Six editions within a period of 20 years is convincing testimony of the practical usefulness of this standard textbook and work of reference on nervous and mental diseases. It is the fate of most medical textbooks, which only a few escape, to enjoy a period of popularity and within a few years or a decade to be superseded by another book upon the same subject. Jelliffe and White's book is one of the outstanding exceptions. Since the appearance of the first edition in 1915, it has dominated the field. The reasons are not hard to find; they are to be recognized in the clear presentation of the subject matter and the catholic scope of its treatment. The authors comprehend "disease" as a disorder in the relationship existing between the native endowment of the individual and the stresses and strains proceeding from the environment and affecting the total organism. They see this organism in its dynamic aspect, as an energy-receiving, transforming and utilizing agency, and not merely a set of organs endowed with specific functions.

The book is divided into three parts: the first is the physical-chemical systems, the neurology of metabolism; the second is the sensorimotor systems, the neurology of sensation and motion; and the third, the psychical or symbolic systems, neuroses, psychoneuroses and psychoses. The text is illustrated by several hundred well executed engravings and a number of full-page plates in colors. Much new matter has been included in this edition, which is fully abreast of the developments of psychiatry. The publishers have avoided increasing the number of pages by making them larger.

**Roots of Crime.** By FRANZ ALEXANDER, M. D., and WILLIAM HEALY, M. D. Alfred A. Knopf, New York. 305 pages. \$3.00.

The authors hold that crime is the result of the interplay of social and psychological factors. Either of them may be predominant in one case, negligible in another. Given certain malignant social situations, a great range of personality types will drift into crime. On the other hand, certain individuals take to criminal activity to satisfy a deep emotional need, regardless of the external circumstances, good or bad. To throw light on the psychological roots of crime, Dr. Alexander undertook a psychoanalysis of 11 confirmed criminals not mentally defective. All of them had received careful case study at child guidance clinics or correctional institutions some

10 years ago. All but two had previously received years of correctional treatment but without results. The analyses were carried out under great difficulties. Five were analyzed while in prison and the authors state that these were sneered at not only by their fellow inmates but by the guards as well. In three cases, adolescent youths, the analyses were discontinued after several interviews because they could not be gotten to cooperate. A fourth case was dropped because it proved to be a schizoid personality. Although the analytic investigation was undertaken primarily as an etiological study, the authors state that of the seven cases (six men and one woman) who cooperated in the analytic procedure four have abstained from crime at the time of writing, some two years after the analyses were completed.

The major portion of the book is a transcription of the material obtained from the seven criminals who had the hardihood to persevere through some 10 months of analytic interviews. It would seem to the reviewer that as faithful records of the intimate thought processes of delinquent minds, these chapters merit the careful examination of all who are seriously interested in the crime problem, irrespective of what they may think of the psychoanalytic technique.

It is exceedingly difficult to give a brief and at the same time adequate abstract of these seven analyzed cases. However, running through the inner mental life of all of these, like the variations of a dominant theme in a musical composition, is some gross disturbance in the child-mother emotional relationship. In four cases mother-love was entirely denied them; three cases received massive over-doses of maternal affection. As thorough-going psychoanalysts the authors carry this relationship back to the suckling stage, the very first taking from another, and they speak of the "oral fixation to the mother." Be that as it may, the case material which they offer seems to substantiate their thesis that some are criminals because they are motivated by tensions the origins of which are entirely unconscious to them. Their criminal acts are not dependent on external circumstances; hence, it naturally follows that such a criminal will not be cured by parole, probation, foster home or vocational guidance. After uncovering for the first time the unconscious mental mechanisms, the authors report successful results in four out of seven confirmed criminals.

The authors raise several pertinent questions. What is to be done with the adolescent delinquent who does not lend himself to the orthodox psychoanalysis? Why do apparently similar hereditary and social factors in one case produce a neurotic and in another case a criminal? Why does the super-criminal in America appear to be dominated by the prestige motive? To some of these questions the authors venture rather plausible solutions.



On one point the reviewer is impelled to differ with the authors. They deery such social researches into crime as Shaw's book "Delinquency Areas," which shows that a certain area of a city supplies about 20 times as many criminals as do other districts. To Alexander and Healy such extensive researches are unnecessary. They show us merely that the geographical distribution of crime corresponds simply to the social stratification; the lowest social groups live in the cheaper parts of the city. This they say is a matter of common-sense, so social research is quite needless or even confusing. The reviewer feels that if the brand of common-sense possessed by the two authors were really common to the human race then perhaps their point would be well taken. However, social studies such as Shaw's emphasize one important fact, i. e., that crime does *not* correspond with any *racial* stratification. In view of the treatment accorded various minority ethnological groups by enlightened (?) majorities, this is a lesson which our bemuddled world sadly needs even today.

Of course the number of cases is too small and the time lapse too brief to arouse a sense of optimism as far as a satisfactory solution to delinquency is concerned. But in view of the persistent failure of present methods of crime prevention, this work of Alexander and Healy is a challenge which society cannot afford to ignore. The book should be not only read but carefully studied by the psychiatrist, psychologist, sociologist, penologist and social worker.

**Sex Hygiene—What to Teach and How to Teach It.** By ALFRED WORCESTER, A. M., M. D., and Sc. D., D. HENRY K. OLIVER, professor of hygiene, Harvard University. Charles C. Thomas, Springfield, Ill., and Baltimore, 1934. 134 pages. \$2.50.

This is a series of essays or addresses presented during a period of years to scientific, educational and religious groups in New England. Before such diverse audiences, a certain repetition is unavoidable, which has here the effect of emphasizing the author's convictions and conclusions. With some of these there will be disagreement. It could not be otherwise, in view of the controversial nature of the subject.

To clergymen, physicians, teachers, parents and others called upon to impart instruction in the hygiene of sex, there is here available a scope and type of subject matter and a method of presentation which have evidently been acceptable in New England. There seems to be no reason why they could not apply equally well elsewhere and the book is recommended as a source book for that purpose. It is in this field rather than as a textbook for the young that the work would seem to have most value.



**The Range of Human Capacities.** By DAVID WECHSLER, Ph. D. Williams and Wilkins Company, Baltimore, 1935.

A perusal of contemporary literature in biology, anthropology and psychology will show that an inordinate degree of attention has been devoted to the recording of individual differences. Whole philosophies of life are being rewritten in the light of such differences. It is extraordinary, therefore, that so little attention should have been directed to the question of the relative degree of variation indicated by individual differences. Obviously the significance of the differences is dependent upon the range of variation. Dr. Wechsler appears to be the first to have attempted a systematic and objective determination of the actual degrees of such variation. In his survey he includes not only the usual phenomena of stature and weight, but motor capacity, intellectual abilities and physiological functions such as the pulse rate and blood pressure.

The problem may be phrased as follows: If individuals are arrayed from lowest to highest with respect to a given trait or character, how many times is the individual with the greatest amount of the trait in excess of the one with the least? For example, what is the ratio of the height of the tallest individual to that of the shortest? To achieve a reasonable answer, it is necessary to exclude extremes who are physiologically abnormal. Excluding these, it is found that the ratios of the extremes vary from a minimum of 1.03 to 1 with respect to body temperature, to a maximum of 3.87 to 1 for certain learning tests. On the average the rates vary from 1.30 to 1 for linear traits such as stature, to 2.58 to 1 for perceptual and intellectual abilities.

Two conclusions flow from these results: First, the range of variation is clearly less than that commonly set forth by writers on individual differences; second, the ratios vary within limits which indicate a natural constant in the neighborhood of a ratio of 2.7 to 1, which is the important mathematical constant known as *epsilon*.

Some of the consequences of individual differences are traced in two chapters. One, entitled the burden of age, discusses growth curves, and presents evidence that maximum abilities are reached relatively early in life, with a uniform decline thereafter. Another chapter deals with genius, and the thesis is raised that the difference between the genius and the average is not qualitative, but quantitative. That is, the genius has more of the thing that we all possess in some degree.

This is a small book, but its importance transcends its size. It brings together a wealth of data, otherwise scattered in numerous journals; it analyzes these data in a novel manner; and it brings out important conclu-

sions and implications. Readers interested in the question of human differences should study this book with care.

**Educational Psychology.** By DANIEL BELL LEARY. Thomas Nelson and Sons, New York, 1934. 363 pages.

If its style were as commendable as its purpose, one could have only words of praise for this textbook. In a field in which there is still so much disagreement among adherents of different schools of thought there is a place for a text which "correlates and interprets, from the point of view of teaching, the data and theories of modern psychology . . . presents the salient points of opposing theories, . . . and evolves therefrom a consistent and reasonable body of doctrines for the practice of teaching." The scientific point of view in human behavior is stressed throughout, with behaviorism, in the broad sense, receiving the greatest emphasis for its value to the teacher.

Presumably, however, in addition to his expressed purpose, the author intended his book to serve as a text for student teachers. If this is true, one feels that in his desire to show the bearing of psychological principles on the whole educational field he has made the volume so comprehensive that its very scope, together with its difficult style, will discourage, rather than challenge or stimulate, the young person just beginning study in a new field. He wishes to show the fundamental principles on which curricula, methods and educational philosophy should rest, but when he goes on to discuss in too great detail, and in too long sentences and paragraphs, such large topics as abnormal psychology, mental hygiene, mental tests, and statistics, he seems to be attempting to crowd the whole field of psychology into one volume.

The book would be useful for reference if it had been printed with annotations, or if diagrams had been used more freely, particularly in such long discussions as that on the nervous system, for example. Or if the style were more vivid and less involved, the student might learn because of that interest which the author feels is prerequisite to any learning. The second half of this work offends less in complexity of language and abstractness of thought than the first half, and much more use is made of the concrete examples for which the reader longs in the early part of the book. When the author does relate psychological principles to classroom situations, his reasoning is so sound and his judgment so balanced that one wishes he had limited himself to the simple language which he at times uses so effectively.

**Guiding Your Child Through the Formative Years.** By WINIFRED DE KOK. Emerson Books, Inc., New York. 191 pages. \$2.00.

This book, issued in England under the title "New Babies for Old," is written by a physician with a Freudian viewpoint in a simple, straightforward style. Her case material is drawn from her experience with her own two young children.

The Freudian approach has become so incorporated into our philosophy that much of the material seems little more than a reiteration of accepted principles of child training; but the book is more than that, for in the expression of wholesome attitudes toward the usual incidents of child life the author has made a real contribution. Particularly her views of the relationship between the parents and the young child are to be commended. She has found it worthwhile to record the children's first questions relating to sex and their reactions to nudity, to elimination, and to habit training. Their questions and her well-considered answers are given fully. She also takes up the child's imagination and originality. Her observations should lead other mothers to gather material in this rich field.

An underlying theme throughout the book is that from the beginning each child has a personality that is entitled to respect and no one rigid set of rules can be applied to him. The book will serve its best purpose as supplementary reading for mothers of young children; as an explicit guide it lacks comprehensiveness but in defining attitudes it is excellent.

**Woman's Mysteries.** Ancient and modern. By M. ESTHER HARDING, M. D., M. R. C. P. Longmans, Green and Co., New York, 1935. 342 pages. Price \$3.50.

Dr. M. Esther Harding, a psychoanalyst and follower of C. G. Jung of Zürich, has stressed in the preface of her most interesting and instructive book the crying need for emotional evolution, better human relationships and sounder emotional maturity of mankind. Modern civilization, it seems, has outlived its ideals and is in danger to be doomed and lost to less cultured actuality and to a phase of new barbarism. History, she points out, repeats itself: analogous and similar developments and revolutions have occurred throughout the ages. Salvation from this perdition has to come from the psyche, the world drama enacted in us by "reconciliation with the barbarian in ourselves."

With this aim in mind the author makes us familiar with ancient myths, religions and with old and present-day folklore, linking modern life problems to the laws which rule the unconscious where modern rational and scientific ways of thinking cannot penetrate.

Primitive people think in terms of sensory images which constitute the historical background. These archetypes of the old are common to all humanity and return symbolically in dreams and phantasies of modern people. The book, as the title indicates, tries above all to create a new understanding of the Principle of Woman, i. e., the inner law inherent in the nature of woman, functioning inevitably and dictating unerringly the demands of inner relatedness. The book comprises two main parts, the first entitled "The Moon in Myth and Religion" and the second "The Moon as a Symbol."

The feminine principle, Eros, is projected unto the moon in the cultures of widely separated peoples. The moon was originally conceived as an influence of fertility and later as a deity. This Woman's Deity is the feminine principle much as the sun symbolizes the masculine principle. The moon is the giver of fertility and is closely connected with woman's power to bear children, which is considered a gift from the moon. The cyclic changes of the moon have deep significance for primitive people. Taboos, rites and living in accordance with the moon phases may seem strange to the modern mind yet traces can be found in superstitious conscious beliefs of today, but especially in our unconscious. Etymological relationships also throw further light on the important influence the moon cycle played in archaic thinking and living. Parallelisms of symbols in more modern religions can be traced to the powerful moon goddess as well as the symbolism in dreams and phantasies of the modern dreamer expressing emotional realities of the collective unconscious, which harbors the universal psychological experience true to all humanity.

The imitation rites and sacrificial purifications of woman have their parallels in the emotional development of modern woman. The moon was for the primitives a symbol of the very essence of woman, a visible representative of womanhood. Moon worship is older than the worship of the sun. The latter represents the masculine principle, the Logos, from which the modern attitude believing the intellect to be the greatest spiritual power, has probably evolved. Eros and Logos are responsible for the psychic differences in men and women, and yet, their natures are complementary. The relationship also creates conflict which can be solved only through reconciliation of the powers of the masculine and feminine principles inherent in every individual.

Sacrifice of the son, the meaning of the virgin goddess, the Oedipus situation, Jung's anima, the imitation of Eros, sacrifice, "sacred marriage" of the ancients, death and rebirth, immortality and creativeness and other phe-

nomena of ethnic psychology are efficiently discussed. We find also references to art and culture of our days.

The author feels that modern woman has to regain fruitful relation to Eros as she is governed by the same law as her primitive sister. The last sentences of Dr. Harding's book read as follows: "We have given our allegiance too exclusively to masculine forces. Today, however, the ancient feminine principle is reasserting its power. Forced on by the suffering and unhappiness incurred through disregard of the Eros values, men and women are turning once again toward the moon mother, not, however, through a religious cult, not even with a conscious knowledge of what they are doing, but through a change in psychological attitude. For that power, which in ancient and more naïve days was projected into the form of a goddess, is no longer seen in the guise of a religious tenet but is now sensed as a psychological force arising from the unconscious, having as had the Magna Dea of old, power to mould the destinies of mankind."

The book will be gladly accepted by those who try to sense and fathom life's emotional realities and problems. It offers a wealth of material and holds the interest in spite of necessary and unnecessary repetitions. It certainly opens up avenues of psychological vision which, we may hope with the author, will better human relationships. Special mention should also be made here to the author's book: "The Way of All Women" (published in 1933), which may be regarded as a complement to "Woman's Mysteries."

**An Introduction to Sex Education.** By WINIFRED V. RICHMOND, Ph. D.  
Farrar & Rinehart, Inc., New York. 312 pages. Price \$2.50.

As the author is psychologist for a large public institution, the angle of approach is psychological rather than medical. From the scope and diversity indicated by the chapter headings it is evident that in the limited space available, the many topics can be presented in little more than outline. On the whole, however, the presentation is excellent.

Chapters one and two cover matter that is quite generally taught in high schools and consequently could have been much condensed. The third and fourth chapters, discussing sex in primitive society and in historical perspective, particularly the latter, are perhaps the most interesting and certainly the most readable part of the book.

The last four chapters are naturally presented from the psychologist's viewpoint, but not the extreme viewpoint of some—the advocates of psychoanalysis, for instance. In general, adequate recognition is given to the major interests of the physician and the sociologist in the field of sex education.



The author points out the futility of a program of segregation or sterilization in reducing mental defect or disease, as there are many normal carriers of defective genes for each patient suffering from mental disorder. She emphasizes the communistic nature of primitive society and the resultant necessity for stern repression of individualism. Communism is not as its advocates claim, a new and forward-looking form of social organization, but rather a reversion to an ancient and primitive system long since abandoned by the more progressive peoples.

Notwithstanding evident care in presentation of material, in discussing the social importance of venereal diseases, the author has made, doubtless inadvertently, a serious misstatement of fact (page 285), "paresis forms the second largest group of admissions to mental hospitals." According to Pollock and Malzberg, first admissions to New York civil State hospitals, for the year ended June 30, 1935, showed dementia præcox 26.2 per cent; cerebral arteriosclerosis 19.7 per cent; manic-depressive psychoses 9.0 per cent; general paresis 8.5 per cent.

While the prevalence of venereal diseases has vast social significance and constitutes serious reflection on the adequacy of our social, political and scientific organization, true reform, in the reviewer's opinion, will not be promoted by an exaggeration of known facts concerning their rôle in the causation of mental disorder. However, any preventable cause accounting for more than eight per cent of first admissions to mental hospitals demands our most serious consideration.

There are a number of excellent illustrations, charts and diagrams. A list of suggested readings and a bibliography at the end of each chapter is a splendid feature.

**The Sexual Relations of Mankind.** By Professor PAOLA MANTEGAZZA.

Translated by Samuel Putman. Eugenics Publishing Company, New York, 1935. 335 pages. \$3.00.

This is said to be the first complete unexpurgated edition in English, although during the author's lifetime his work had been translated into French, German and Spanish. This work must have attained a considerable popularity in Italy for it went through several editions during the author's lifetime, this translation being made from the eleventh edition as revised by him. Professor Mantegazza was a prolific writer on many topics and as a sexologist naturally aroused much opposition, which he evidently enjoyed, judging from the preface to the eleventh edition. Here he almost voices regret that the tempest is over. There is a certain charm and vividness to his style apparent even in translation. The first edition was published in



1885, and this revision about 15 years later. The author's death at 79 occurred in 1910.

As for the work itself, it was written for another time and another people. Notwithstanding claims of scientific accuracy, it seems to consist in considerable degree of collections of old wives' tales and travelers' and sailors' yarns of two, three and more generations ago. Granting their truth, sex habits and customs of other peoples that seem to us weird, fantastic, cruel, debased or perverted, are normal and approved according to the respective standards of the South Sea Islands, the Mongol tribes, Equatorial Africa and America, Timbaktu or the Bronx, for after all, the sex habits of a people are of primary interest to that people, rather than to outside busybodies who may be messing in on the plea of religious, moral, legal or social reforms.

The work is of limited value to students of history, psychology and sociology, perhaps hardly sufficient to justify this late posthumous publication. Recent articles in the public press intimate there is a thriving traffic of a particularly sinister type in certain books, including the above title, that are being offered to students in boarding schools, among others. While there is no suggestion that the publishers are encouraging this traffic, or are even cognizant of it, such books are certainly not for adolescent minds. Such venal traffic under the guise of eugenics deserves our severest condemnation.

**Our Mysterious Life Glands and How They Affect Us.** By WILLIAM J. ROBINSON, M. D. Eugenics Publishing Co., Inc., New York. 291 pages. \$2.00.

An historical survey of the medicine of the past half-century shows that almost every scientific remedy or method of treatment introduced has been seized upon and promptly exploited. The chief offenders are the less ethical manufacturers on the lookout for profits and those commercially-minded physicians who believe in "cashing in" while the newspapers are extolling the virtues of the new remedy and the general public is more than ordinarily gullible and responsive to subtle suggestion.

Widespread exploitation began with Koch's tuberculin. Today the most fertile field for those "scientific" charlatans who desire to "get rich quick" lies in the promotion of the use and sales of endocrine extracts, and of preparations of vitamins. That the preparation itself, or as administered, may be utterly worthless matters not a whit. The importance to the promoters lies in the sales volume, not the therapeutic effects. That promotion

and exploitation can be done away with by law is demonstrated by the Canadian government's domination of the preparation and sale of insulin. Furthermore, it can be controlled, at least partially, by the education of the purchasing public.

Stimulated by this need, Dr. Robinson, in writing "Our Mysterious Life Glands," aimed at the education of the less well-informed physician as well as of the general public. His is, we believe, the first attempt to review our knowledge of the endocrine glands in a popular yet scientific manner. His avowed intention was to present a book on the ductless glands and their secretions, a book to be free from unnecessary technicalities on the one hand and from popular sensationalism and "utter nonsense" on the other. In his ambition he has succeeded admirably.

Professor Swale Vincent, at a meeting of the Royal Society of Medicine, forcibly indicated the need for just such a book when he said, "There is no subject upon which so much utter nonsense has been talked as upon internal secretions; and organotherapy, or at any rate a large part of it, may be defined as the application of this nonsense to practical medicine. In the meantime, certain firms of manufacturing druggists are making the most of a unique opportunity and are growing rich by reason of the inadequate education of medical practitioners and the notorious ignorance of the general public in all matters relating to their own bodies."

The chapters dealing with the thyroid gland, with obesity and with the vitamins are particularly good. Of the vitamins, Dr. Robinson enthusiastically says "... their discovery has proved one of mankind's greatest blessings." Comparing them critically with the hormones he further states "... only thyroid extract or thyroxin and insulin can be compared in importance and beneficence to the discovery of the vitamins."

At times, however, Dr. Robinson allows his fine critical judgment and clarity of thought to be clouded by his personal prejudices. His chapter upon homosexuality, narcissism and transvestitism, written as it is from the standpoint of a urologist, certainly treads upon controversial grounds when he attempts to dismiss the psychoanalytic viewpoint upon the same subjects. This attitude is particularly interesting in light of the fact that Dr. Robinson in his extensive writing on sexual topics does take into consideration the psychological factors. The chapter upon the endocrine glands of the dead, although it seems to be entirely out of place in a volume purporting to be a scientific resumé of endocrinology, is cleverly written and amusing.

In spite of the fact that this book is a popular production written for mass consumption and that it makes no new contribution to the field of endocrinology or to the knowledge of the vitamins, it is to be recommended to the attention of those, physicians and laymen alike, who are seeking a concise, simple, scientific resumé of what is known in these fields. Those who wish to learn the basic principles will find this an admirable book.

**Samuel Gridley Howe.** By his daughter, LAURA E. RICHARDS. Illustrated. D. Appleton-Century Company, New York. 283 pages. \$2.50.

Few people live such a full life as Samuel Gridley Howe. Always a defender of those oppressed and underprivileged, he found his first expression in fighting with the Greeks in their effort to gain independence from Turkey. Later because of his efforts to aid Polish sufferers, he was put in prison in Germany without trial. In his own country once more, Dr. Howe became much interested in the training of the blind and founded the Perkins Institute in Boston. He was active in securing legislative action for the founding of similar schools in various states.

At this time Dr. Howe became acquainted with Dorothea Dix and was active in securing legislative appropriation for the care of the insane. A later venture was to aid Horace Mann in reforming the Boston public schools.

Dr. Howe with his wide humanitarian interests early became convinced that the low-grade mental defective was amenable to certain training. To demonstrate his point he took 10 of them into his institution for the blind and after a year of training was able to convince the legislature that sufficient improvement had occurred to make it worth while for the state to expand its activity in this humanitarian effort because of its practical value.

In his later life Dr. Howe dedicated much of his time and energy to anti-slavery work and doing service in camps and hospitals during the Civil War.

Dr. Howe's life activities were closely associated with the interesting, progressive figures of his time in various fields, such as politics, art, literature, and medicine—so that interesting sidelights are given on these men and the times by the author.

The book is charmingly written. So vivid is Dr. Howe's personality that one shares his enthusiasm and zeal for the causes he championed. The reader realizes that few men have given so much of themselves to the alleviation of human suffering with such satisfying achievement. His daughter in writing of him has given us his sparkling, driving, daring make-up and the emotional satisfactions which enabled him to carry on in his great work.

**A Survey of Industrial Mental Hygiene.** By Drs. C. H. HENNINGER, T. M. T. MCKENNAN and S. S. GOMORY, under the auspices of the School of Medicine, University of Pittsburgh. Pittsburgh, 1934. Paper. 140 pages.

The industrial and social consequences of mental disorder and mental deficiency are intelligently stated in this survey. Risks occasioned by workers with psychotic tendencies, both to their fellow employees and to themselves, are described with specific reference to each of the commonest forms of mental disease. Psychoses due to exogenous poisons providing as they do such a small percentage of mental cases, it would seem that too much space was allotted in this report to the toxic dangers in certain industries, for the proper development of the main thesis.

It is unfortunate that the chapter on "Hospital Statistics" should bear such misleading items as the figures for two of the main diagnostic groups. It is stated that manic-depressives provide 3.2 per cent of all cases treated (page 38); and that general paresis contributes 13.2 per cent (page 29). While this is undoubtedly true for the institution studied in this report (3,560 male patients who were admitted to the psychopathic service of St. Francis Hospital, in Pittsburgh), the reader should be cautioned not to accept these percentages as reliable for much larger groups. The statistics for New York's civil State hospitals, over the same period (1922 to 1931) reveal that manic-depressive psychoses furnish more than four times this percentage, while general paresis shows somewhat more than half the figure given in this book.

Otherwise, however, the purpose of the study is commendable. Chapter XIII lists the qualifications for the mental hygienist in industry and describes the rôle the psychiatrist can play in promoting improvement in the industrial community as a whole. The preventive aspect is stated simply and clearly: "The determination of mental fitness for the work required is of equal importance to that of determining the physical fitness."

**Asylum.** WILLIAM SEABROOK. Harcourt, Brace and Company, New York, 1935. 263 pages. \$2.00.

Fortunately, this volume, which has already passed through four printings and has been at one time rated as the third best-selling piece of non-fiction, presents a true, personal and engaging account of the author's experiences while a patient in a modern psychiatric institution. Written as "the story of a strange adventure in a strange place," it differs from most similar

adventures only in that it can be recalled lucidly and is told with all the technique of a professional journalist.

Definitely intended for popular reading, and verging upon the sensational in parts, it nevertheless serves the purpose of educating the lay mind, in a style that will capture its attention, to some of the present attitudes of psychiatry, which it would be loth to investigate in long, technical reports. Particularly instructive is the allusion to the psychiatric view of alcoholism, wherein through a conversation between the author and a doctor, it is pointed out that the alcoholic is rather a victim of his own personality, than of alcohol, and that such an addiction is only a manifestation of the mechanism of escape from reality. These pages are the more studied and well written, because they refer directly to Seabrook's own case. There one is inclined to suspect that the narcissism of the journalist-adventurer is coming to the fore, but we may say that in this instance the end justifies the means.

The book is worth at least the swift perusal of the psychiatrist and the mental hospital employee, since it each will find himself pictured from the viewpoint of the patient. It is quite likely that the cause of mental hygiene would be aided by more such narratives, with perhaps somewhat less tendency to the facetious. After all, it should be admitted that in order to reach the public, you must speak its tongue.

The following books were also received:

**An Outline of Educational Psychology.** By RUDOLPH PINTNER, Ph. D., and others. Samuel Smith, Ph. D., general editor. Barnes and Noble, New York, 1934. 211 pages. Paper. Price 75 cents.

Eleven of the most widely-read American texts on educational psychology are submitted to analysis by the five contributors to this handbook. The result is an integrated work presenting the best those texts have to offer. There is generous reference to the literature on the subject, with an ingenious chart of readings on chapter topics. In so far as the psychiatrist, the social worker and the child guidance expert may cross the path of our educational system, this book will acquaint them with the points of view of the educators. A chapter on mental hygiene is included whose statement of its principles, practice and scope is admirable. The bibliography following this chapter might have been enlarged to include some of the foremost writers in the field who are not specifically teachers. In general, the outline is a useful guide and is sound in its psychological observations.

**The Emergence of a New Public Employment Service.** By JESS T. HOPKINS, manager of the Public Employment Center of Rochester. New York State Employment Service, 1935. Paper. 345 pages.

The economic depression has prompted some excellent studies of employment problems and their social interpretations. While its approach is not psychiatric, this work may prove of value to those engaged in placing patients in gainful occupations. Psychologists will discover how extensively use is made of intelligence, aptitude and personality tests in the plan outlined by the author.

**The Socialized Motive.** By M. C. S. NOBLE, Jr., Ph. D., of the State Department of Public Instruction of North Carolina. The Acorn Publishing Company, Rockville Centre, N. Y., 1934. Cloth. 138 pages. Price \$2.00.

This book could be used to advantage by educators who are apt to assume that altruism is more or less inherited. The author ably illustrates that inherited motives are basically selfish and that sense of responsibility to our fellow men is entirely learned. Only through the development in children of the *socialized motive* may educators, parents and guidance experts hope to give the child insight into his duties to society. The treatment by the author of the deeper psychological mechanisms is somewhat superficial, but since psychiatrists are in the minority among those who influence children, the presentation of these underlying principles of behavior to the majority is commendable. Discussion is from the viewpoint of the schoolroom and should serve to promote understanding among mental hygienists of guidance problems that involve the educative process.



## **DR. MORTIMER W. RAYNOR**

Shortly after beginning his tenth year as medical superintendent of the Bloomingdale Hospital, Dr. Raynor died suddenly of a heart attack on October 5, 1935. A psychiatrist of wide renown who devoted himself to the service of his fellow men, he leaves the imprint of his career upon the path of human progress.

Dr. Raynor's first activity in psychiatry was in association with the Hudson River State Hospital, following which he was first assistant physician at Manhattan State Hospital. Further recognition of his executive, as well as professional, ability came in 1924, when he was appointed superintendent of Kings Park State Hospital, a post which he held for two years, and which he relinquished to assume the superintendency at White Plains.

That his services were considered valuable in specialized fields is evidenced in his work in 1917 as psychiatrist at the city penitentiary on Welfare Island, New York City. In the Medical Corps of the 79th Division, Dr. Raynor gained praise as psychiatrist with the United States forces in France, being accorded formal honors by the commanding officer of that division.

Dr. Raynor was president of the New York Society for Clinical Psychiatry in 1930 and 1931; president of the New York Psychiatric Society in 1932 and 1933; and president of the Westchester County Medical Society in 1933 and 1934. He was a fellow of the New York Academy of Medicine, the American Medical Association and the American Psychiatric Association.

## NOTES

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—A clinic for mental defectives, to be located in the out-patient department of Kings County Hospital in Brooklyn, has been included in 1936 budget of the commissioner of hospitals of New York City.

—Dr. John Jenks Thomas died on July 17, 1935, in his seventy-fourth year. He had been an active neurologist and pathologist, and in 1908 and 1916 was vice-president of the American Neurological Association.

—The thirteenth annual meeting of the American Orthopsychiatric Association will be held at the Statler Hotel in Cleveland, Ohio, February 20, 21, 22, 1936. Dr. George S. Stevenson, 50 West 50th Street, New York City, is the secretary.

—Dr. Karl M. Bowman of Newton Centre, Massachusetts, chief medical officer of the Boston Psychopathic Hospital, was appointed on December 4, 1935, director of the division of psychiatry of Bellevue and Allied Hospitals. He will have charge of the psychiatric pavilion of Bellevue Hospital, a position formerly occupied by Dr. Menas S. Gregory. The latter will serve in the division as consulting psychiatrist.

—Dr. Alvin Walter Klein died on September 27, 1935. He had an active career, being associated with the New York State hospital service at Ward's Island prior to general practice in Connecticut. In the latter state he took part in drafting the health code. He was a fellow of the American Medical Association and a member of the American Psychiatric Association and other professional groups.

—The first international meeting on fever therapy will be held in New York City in September, 1936. The conference will aim to collect and crystallize available data in this field. Manuscripts and abstracts to be presented at the meeting should be submitted not later than June 1, 1936. Dr. A. U. Desjardins is chairman of the American committee, and Dr. William Bierman, 471 Park Avenue, New York City, is secretary.

—The Massachusetts Department of Mental Diseases, in a bulletin issued, dedicated the number to the late Dr. George Milton Kline, who was commissioner of that department from 1916 to 1933, and whose death in January, 1933, was the occasion for tributes of appreciation from numerous sources. State officers and leaders of medical and psychiatric associations express

their estimation of Dr. Kline's comprehensive activities, and a biographical sketch, by Dr. James V. May, is included.

—From December 4 to 10, 1935, the third congress of the Association pour la Documentation Photographique et Cinématographique dans les Sciences was held at the Musée Pédagogique de L'Etat, in Paris. Under the supervision of M. Lebrun, director of the Centre National de Documentation Pédagogique, and organized by Dr. Claqué and his associates, an abundant program was presented, comprising lectures, demonstrations and visits to various exhibits and studios. During the progress of the congress, the public was invited to witness the showing of photographs and motion pictures and to examine the apparatus. It was earnestly urged that the movement be placed on an international basis, and the members concurred in advocating that cinema laboratories be established in all centers of research, staffed by well-trained technicians.

—The possibilities that lie in music as an instrument for therapy in mental disorder and deficiency were discussed at the Rome State School, on October 29, 1935. Having the nature of an open forum, the meeting was presided over by Dr. Charles Bernstein, with Dr. Willem van de Wall leading the discussion. Dr. Dorothy Liebman, who has come from Germany to study criminals in American institutions, stated that she is satisfied that delinquents and the mentally diseased are most often immature from the emotional standpoint, and that the use of music should be handled through the childhood level. Dr. Richard H. Hutchings stated that he knew of some past successes in the use of music with disturbed patients, but that no thorough study from the medical or psychiatric standpoint has been made, of *how* and *what* to apply in music. It was pointed out that this subject offers a rich field for research, which would broaden the scope of activities in occupational therapy and perhaps develop a latent force in psychotherapy.

—Research workers in 13 scientific centers in various parts of the United States have been mobilized for the campaign recently launched by the National Committee for Mental Hygiene, against dementia præcox, the most prevalent of all mental disorders, it was announced by that organization on November 26, 1935. A fund has been appropriated by the 33° Scottish Rite Masons, Northern Jurisdiction, to finance the campaign in its opening phase, which will seek, as its first objective, a wider knowledge and better understanding of the nature and causes of this disease.

Seven of the foremost American psychiatrists met recently to decide on the projects to be subsidized and the amounts to be allocated from this fund,

and the institutions and investigators have been notified. Dr. Nolan D. C. Lewis, assistant medical director of the New York Neurological Institute, as the National Committee's field representative, made a preparatory survey of the problem during the past year, and will be retained as coordinator of the research program.

Thirteen main research problems will be taken up by 17 of the leading investigators of the country and their staffs in 10 cities and 7 states. The research centers will include three university psychopathic hospitals, one state and two private mental hospitals, a child guidance clinic, a neurological hospital and a university physics laboratory.

